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Phase II  
Vol V  
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FEDERAL ELECTRIC CORPORATION  
BIG RALLY II COMMUNICATION SYSTEM

TEST DATA

PHASE II

VOLUME V



FEDERAL ELECTRIC CORPORATION

an associate of

INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION

AD604912







FEDERAL ELECTRIC CORPORATION  
BIG RALLY II COMMUNICATION SYSTEM

TEST DATA

PHASE II

VOLUME V

ESD-TDR 64-451



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A ORIGINAL ISSUE

REVISIONS

SYM	ZONE	DESCRIPTION	DATE	APPROVED

G	
G	
G	
G	
G	
G1	
GROUP	NEXT ASSEMBLY FIRST USED ON
APPLICATION	
UNLESS OTHERWISE SPECIFIED	
DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES	
COML. TOL. APPLY TO STOCK SIZES	

APPROVALS SIGNATURE & DATE	
DRAWN	<i>W. Christ</i> 6/19/64
CHECKED	<i>H. B. Christ</i> 6/19/64
MECH	
ELECT	
STDS	
FEC	FEC SOURCE
OTHER	

 <b>FEDERAL ELECTRIC CORPORATION</b> PARAMUS INDUSTRIAL PARK A SUBSIDIARY OF INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION PARAMUS, NEW JERSEY	
TEST DATA PHASE II VOLUME V	
CODE IDENT. NO. <b>14842</b>	DWG. <b>A</b>
SIZE <b>6271956</b>	
SCALE	FEC NO.
SHEET	



## LIST OF MATERIALS

[illegible]

<b>TIME</b> SERVICE A SUBSIDIARY OF INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION		FEDERAL ELECTRIC CORPORATION PARAMUS INDUSTRIAL PARK PARAMUS, NEW YORK		PREPARED BY DATE	CHECKED BY DATE	CODE IDENT. NO. 14842	DWG A	LM 6271956A	SHEET
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BR11/93  
Sheet 1  
Revised 11/29/63

## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

## DATA SHEET

## SYSTEM TEST, PHASE II

TID

This Sheet is for Channel # 1 to GPA on LOW Group

Looped at GPA

## 1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.28 400 cps

#2 " 1.3 1000 cps

## Levels of Harmonics:

1600 19 MV Volts

1800 18 MV Volts

2000 7 M Volts

2400 19 M Volts

3000 9 M Volts

Volts

Final Distortion Figure from Formula = 19 %

Expected Limits: 2% one way: 5% loop.

DATE 10/12/63

TESTER *B. L. Loman*

SUPERVISOR *Blanton*

*Patrick Hunt*

GERALD *Ralph L. Huger*



BR11/93  
 Sheet 1  
 Revised 11/29/63

## FEDERAL ELECTRIC CORPORATION

## BIG BALLY II PROJECT

## DATA SHEET

## SYSTEM TEST, PHASE II

This Sheet is for Channel #2 to GPA on LOW Group.

Looped at GPA

## I. Harmonic Distortion

Output Level Both Oscillators: XXXX -16 DBM

Output Level Both Oscillators: #1 Volts 1.25 400 cps

#2 " 1.25 1000 cps

Levels of Harmonics: 1400 9 M Volts

1600 18 M Volts

1800 10/5 M Volts

2000 7 M Volts

3000 14 M Volts

Volts

Final Distortion Figure from Formula = X15 %

Expected Limits: 2% one way; 5% Loop

DATE 11/12/63

TESTER *[Signature]*

SUPERVISOR *[Signature]*

QA *[Signature]*

GEEIA *[Signature]*



BRII/93  
Sheet 1  
Revised 11/29/63

## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

## DATA SHEET

## SYSTEM TEST, PHASE II

This Sheet is for Channel ## 3 to GPA on LOW Group

Looped at GPA

## 1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.23 400 cps

#2 " 1.25 1000 cps

Levels of Harmonics: 1600 22 M Volts

1800 14 M Volts

2400 19 M Volts

3 000 14 M Volts

Volts

Volts

Final Distortion Figure from Formula x2,

Expected Limits: 2% one way 5% Loop

DATE 11/10/63

TESTER

SUPERV

QA

GEEIA



BRII/93  
 Sheet 1  
 Revised 11/29/63

## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

## DATA SHEET

## SYSTEM TEST, PHASE II

This Sheet is for Channel # 4 to GPA on LOW Group

Looped at GPA

## 1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.25 400 cps

#2 " 1.3 1000 cps

Levels of Harmonics: 1800 11.5 M Volts

2000 12 M Volts

2400 7 M Volts

3000 7 M Volts

Volts

Volts

Final Distortion Figure from Formula = x12 %

Expected Limits: 2% one way: 5% Loop.

DATE 12/10/63

TESTER B. Signer

SUPERVISOR P. Carter

QA Patrick Hunt

GEIA Ralph H. Huger



BR11/93  
 Sheet 1  
 Revised 11/19/63

## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

## DATA SHEET

## SYSTEM TEST, PHASE II

This Sheet is for Channel # 5 to GPA on LOW Group

Looped at GPA

## 1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.15 4000 cps

#2 " 1.3 1000 cps

Levels of Harmonics: 1600 24.5 M Volts

1800 19 M Volts

2400 21.5 M Volts

3000 30 M Volts

Volts

Volts

Final Distortion Figure from Formula = 2.8 %

Expected Limits: 2% one way: 5% Loop.

DATE 12/10/63

TESTER *B. L. Smith*

SUPERVISOR

*Patrick Hunt*

CECIL

*Ralph Bruger*



BR11/93  
 Sheet 1  
 Revised 11/29/63

## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

## DATA SHEET

## SYSTEM TEST PHASE II

This Sheet is for Channel # 6 to GPA on LOW Group

Looped at GPA

## 1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.35 400 cps

#2 " 1.27 1000 cps

Levels of Harmonics: 1600 26 M Volts

1800 25 M Volts

2000 8 M Volts

2400 24 M Volts

3000 6 M Volts

Volts

Final Distortion Figure from Formula = x22 %

Expected Limits: 2% one way: 5% Loop.

DATE 12/10/63

TESTER *B. J. Symon*

SUPERVISOR *R. Plante*

QA *Patrick Hunt*

GENIA *Ralph S. Kruger*



BRII/93  
 Sheet 1  
 Revised 11/29/63

## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

## DATA SHEET

## SYSTEM TEST PHASE II

This Sheet is for Channel # 7 to G PA on LOW Group

Looped at GPA

## 1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1/3 400 cps

#2 " 1.25 1000 cps

Levels of Harmonics:	1400	<u>6</u>	M Volts
	1600	<u>42</u>	M Volts
	1800	<u>21</u>	M Volts
	2000	<u>15</u>	M Volts
	2400	<u>26</u>	M Volts
	3000	<u>15.5</u>	M Volts

Final Distortion Figure from Formula = x33 %

Expected Limits: 2% one way: 5% Loop.

DATE 12/10/63

TESTER *[Signature]*

SUPERVISOR *[Signature]*

Q. *Patrick Hunt*

GEEIA *Ralph S. Huger*



BR11/93  
Sheet 1  
Revised 11/29/63

## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

## DATA SHEET

## SYSTEM TEST PHASE II

This Sheet is for Channel # 8 to GPA on LOW Group

Looped at GPA

## 1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.2 400 cps

#2 " 1.3 1000 cps

Levels of Harmonics: 1600 6 M Volts

1800 32 M Volts

2000 5.4 M Volts

2400 38 M Volts

3000 9.2 M Volts

Volts

Final Distortion Figure from Formula = x3 %

Expected Limits: 2% one way: 5% Loop.

DATE 12/10/63

TESTER B. Ligon

SUPERVISOR W. Carter

QA Patrick Hunt

GENA Ralph S. Huger



BNII/93  
 Sheet 1  
 Revised 11/29/63

## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

## DATA SHEET

## SYSTEM TEST PHASE II

This Sheet is for Channel # 9 to G PA on LOW Group

Looped at GPA

## 1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts XXX 1.23 400 cps

#2 " 1.3 1000 cps

Levels of Harmonics: 1400 6 MVolts

1600 23 M Volts

1800 16 MVolts

2000 12 MVolts

2400 15.5 M Volts

3000 1 7 MVolts

Final Distortion Figure from Formula : X21 %

Expected Limits: 2% one way: 5% Loop.

DATE 12/10/63

TESTER B. L. Ligon

SUPERVISOR R. E. Carter

QA Patrick Hunt

GENIA Ralph S. Kruger



BR11/93  
 Sheet 1  
 Revised 11/29/63

## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

## DATA SHEET

## SYSTEM TEST, PHASE II

This Sheet is for Channel # 10 to GPA on LOW Group

Looped at GPA

## 1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.45 400 cps

#2 " 1.29 1000 c ps

Levels of Harmonics: 1600 29 M Volts

1800 26 M Volts

2000 13 M Volts

2400 25 M Volts

3000 8 M Volts

Volts

Final Distortion Figure from Formula = 25 %

Expected limits: 2% one way: 5% Loop.

DATE 12/10/63

TESTER B. S. Squire

SUPERVISOR Blanton

QA Patricia Hunt

GEEIA Ralph S. Brueger



BR11/93  
 Sheet 1  
 Revised 11/29/63

## FEDERAL ELECTRIC CORPORATION

## BIG RALLY TV PROJECT

## DATA SHEET

## SYSTEM TEST PHASE II

This Sheet is for Channel # 11 to GPA on LOW Group

Looped at GPA

## 1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.35 400 cps

#2 " 1.25 1000 cps

Levels of Harmonics: 1600 24 M Volts

1800 14 M Volts

2000 5.2 M Volts

2400 17.5 M Volts

3000 7.8 M Volts

Volts

Final Distortion Figure from Formula =  $\times 19$  %

Expected Limits: 2% one way: 5% Loop.

DATE 12/10/63

TESTER *David Simon*

SUPERVISOR *P. Carter*

Q. *Patrick Hunt*

GEETA *Ralph S. Shuger*



BR11/93  
Sheet 1  
Revised 11/29/63

## FEDERAL ELECTRIC CORPORATION

## BIG RALLY IS PROJECT

## DATA SHEET

## SYSTEM TEST, PHASE II

This Sheet is for Channel # 12 to G PA on LOW Group

Looped at GPA

## 1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.23 400 cps

#2 " 1.3 1000 cps

Levels of Harmonics: 1400 5 M Volts

1600 24 M Volts

1800 19 M Volts

2000 8.6 M Volts

2400 17 M Volts

Volts

Final Distortion Figure from Formula =  $\times 2$  %

Expected Limits: 2% one way: 5% Loop.

DATE 12/10/63

TESTER *B. J. Zeman*

SUPERVISOR

QA *Patrick Hunt*

SEAL *Ralph S. Bruger*



BR11/93  
Sheet 2  
Revised 11/29/63

## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

## DATA SHEET

## SYSTEM TEST, PHASE II

This Sheet  
is for TID - GPA  
Section:

## I. Circuit Monitor and Alarm

1. Test-Reset switches do not function from TID terminal, only at GPA (TID - GPA PANEL).
2. GPA Low Group alarm light for channel 5 does not function.

DATE 12 December 1963

TESTER

*B. Lignman*

SUPERVISOR

*Blades*

QA

*Patrick Hunt*

GEEJA

*Ralph S. Kruger*

XXXX



BR11/93  
 Sheet 1  
 Revised 11/29/63

## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

## DATA SHEET

## SYSTEM TEST PHASE II

TID

This Sheet is for Channel # 1 to T.K.G. on BRP- 1 Group

Looped at T.K.G.

## 1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts  $1/3$  400 cps

#2 " 1.2 1000 cps

Levels of Harmonics:	1400	10	M Volts
	1600	35	M Volts
	1800	13	M Volts
	2000	9	M Volts
	2400	16	M Volts
	3000	10	M Volts

Final Distortion Figure from Formula = 1.4 %

Expected Limits: . 2% one way: 5% Loop.

DATE 12/11/63

TESTER *R. S. Brown*

SUPERVISOR *Blair*

QA *Patricia Hunt*

GEEIA *Ralph S. Kruger*



BR11/93  
Sheet 1  
Revised 11/29/63

## FEDERAL ELECTRIC CORPORATION

## BIG RALLY 1X PROJECT

## DATA SHEET

## SYSTEM TEST, PHASE II

This Sheet is for Channel #2 to T.K.G. on GRP 1 Group  
Looped at T.K.G.

## 1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM  
Output Level Both Oscillators: #1 Volts 1.2 400 c ps  
#2 " 1.1 1000 cps

Levels of Harmonics:

1400	7	M Volts
1600	30	M Volts
1800	12	M Volts
3000	24	M Volts
		Volts
		Volts

Final Distortion Figure from Formula = 2.6 %

Expected Limits: 2% one way: 5% Loop.

DATE 12/11/63

TESTER

SUPERVISOR

QC

GEEIA

Ralph S. Bruger



LIBERAL ELECTRIC CORPORATION

EIS RALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE II

This Sheet is for Channel # 3 to T.K.G. on GRP 1 Group  
Loaded at T.K.G.

1. Harmonic Distortion

Output Level Both Oscillators: -16 dBm

Output Level Both Oscillators: #1 Volts 1.1 400 cps

#2 " 1.2 1000 cps

Levels of Harmonics:	1600	30	M	Volts
	1800	10	M	Volts
	2000	7	M	Volts
	2400	12	M	Volts
	3000	23	M	Volts

Final Distortion Figure from Formula .25

Expected Limits: 2% one way 5% Loop

DATE 12/11/63

TESTER B. L. Wynn

SUPERVISOR Blanton

QA Patrick Hunt

GEN Ralph S. Bringer



FEDERAL ELECTRIC CORPORATION

BIG BANG II PROJECT

DATA SHEET

SYSTEM TEST PHASE II

This Sheet is for Channel # 4 to T.K.G. on GRP\_1 Group

Looped at T.K.G.

1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: 51 Volts 1.3 400 cps

52 " 1.25 1000 cps

Levels of Harmonics: 1400 7 M Volts

1600 35 M Volts

1800 10 M Volts

2000 18 M Volts

2400 18 M Volts

3000 6 M Volts

Final Distortion Figure from Formula +23

Expected Limits: 2% one way: 5% Loop.

DATE 12/11/63

TESTER B. L. Ingram

SUPV R. E. Carter

CA Patricia Hunt

GRPA Ralph S. Bruger



FEDERAL ELECTRIC CORPORATION

BIG BALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE II

This Sheet is for Channel # 5 to T.K.G. on GRP-1 Group  
Looped at T.K.G.

1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.3 400 cps

#2 1.3 1000 cps

Levels of Harmonics: 600 8 M Volts

1600 32 M Volts

1800 11 M Volts

2000 7 M Volts

2400 11 M Volts

3000 5.5 M Volts

Final Distortion Figure from Formula:  $\times 2$

Expected Limits: 2% one way: 5% loop

DATE 12/11/63

TESTER B. S. Brown

SUPERVISOR

OF

SEEN

Ralph S. Bringer



FEDERAL ELECTRIC CORPORATION

BIR RALLY '71 PROJECT

DATA SHEET

SYSTEM TEST PHASE II

This Sheet is for Channel # 6 to T.K.G. on GRP- 1 Group  
Loaded at T.K.G.

1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.2 400 cps

#2 " 1.2 1000 cps

Levels of Harmonics: 1600 24 M Volts

1800 10 M Volts

2000 8 M Volts

2 400 11 M Volts

3000 6 M Volts

Final Distortion Figure from Formula = \*2.1

Expected Limits: 2% one way 5% loop

DATE 12/11/63

TESTER *B. L. Hines*

SUPERVISOR *P. Blantes*

CHIEF *Patrick Hunt*

GEN. *Ralph S. Bruger*



FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE II

This Sheet is for Channel # 7 to T.K.G. on GRP-1 Group  
Coded at T.K.G.

1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.25 400 cps

#2 " 1.25 1000 cps

Levels of Harmonics: 1600 32 M Volts

1800 8 M Volts

2000 5.5 M Volts

2400 12 M Volts

3000 18 M Volts

Final Distortion Figure from Formula = +22

Expected Limits: 2% one way 5% loop

DATE 12/11/63

TESTER *B. J. [Signature]*

SUPER *[Signature]*

OF Patrick Hunt

GEN. Ralph S. Bruger



FEDERAL ELECTRIC CORPORATION

BIG RALLY TV PROJECT

DATA SHEET

SYSTEM TEST PHASE II

This Sheet is for Channel # 8 to T.K.G. on GRP-1 Group  
Looped at T.K.G.

1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.2 400 cps

#2 " 1.2 1000 cps

Levels of Harmonics:	600	7	M Volts
	1600	28	M Volts
	1800	13	M Volts
	2000	8	M Volts
	2400	12.5	M Volts
			Volts

Final Distortion Figure from Formula =  $\sqrt{2}$

Expected Limits: 2% one way: 5% Loop

DATE 12/11/63

TESTER *B. Ligon*  
SUPERVISOR *W. Blanton*  
QA *Patrick Hunt*  
GEN. A *Ralph S. Huger*



FEDERAL ELECTRIC CORPORATION

BIG BALLY II PROJECT

DATA SHEET

SYSTEM TEST, PHASE II

This Sheet is for Channel # 9 to T, K.G. or GRP-1 Group  
Looped at T.K.G.

1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.2 400 cps

#2 " 1.2 1000 cps

Levels of Harmonics:

1200 5 M Volts

1400 5 M Volts

1600 30 M Volts

1800 11 M Volts

2000 7 M Volts

~~XXXX~~ Volts

Final Distortion Figure from Formula = 1.26

Expected Limits: 2% one way: 5% Loop

DATE 12/11/63

TESTER *[Signature]*

SUPERVISOR *[Signature]*

OF *[Signature]*

GEN. *[Signature]*



FEDERAL ELECTRIC CORPORATION

BIG BALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE II

This Sheet is for Channel # 10 to T.K.G. on BRP-1 Group  
looped at T.K.G.

I. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.3 400 cps

#2 " 1.2 1000 cps

Levels of Harmonics: 1600 27 M

1800 8.5 M

2000 6 M

2400 12 M

Volts

Volts

Final Distortion Figure from Formula  $\times 17$

Expected Limits: 2% one way: 5% Loop

DATE 12/11/63

TESTER *H. Sigman*

SUPER *P. Clayton*

OF *Patrick Hunt*

CHIEF *Ralph S. Kruger*



FEDERAL ELECTRIC CORPORATION

BIG BALLY IT PROJECT

DATA SHEET

SYSTEM TEST PHASE II

This Sheet is for Channel # 11 to T.K.G. on GRP-1 Group

Looped at T.K.G.

1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.5 400 cps

#2 " 1.2 1000 cps

Levels of Harmonics: 600 5.5 M Volts

1400 5 M Volts

1600 21 M Volts

1800 8 M Volts

2000 7 M Volts

2400 6 M Volts

Final Distortion Figure from Formula =  $\times 13$

Expected Limits: 2% one way: 5% Loop

DATE 12/11/63

TESTER *B. Simon*

SUPV *R. Carter*

QA *Patrick Hunt*

GRN *Ralph S. Hoyer*



FEDERAL ELECTRIC CORPORATION

BIG BALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE II

This Sheet is for Channel # 12 to T.K.G. on GRP-1 Group

Loaded at T.K.G.

1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Voles 1.1 400 cps

#2 " 1.2 1000 cps

Levels of Harmonics:

600 5 M Voles

1400 5 M Voles

1600 19 M Voles

1800 9.5 M Voles

2000 7 M Voles

2400 11 M Voles

Final Distortion Figure from Formula:  $\times 16$

Expected Limits: 2% one way 5% loop

DATE 12/11/63

TESTED *Asignor*

SUPER *W. H. Hester*

C. *Arthur Hand*

SEER *Ralph S. Huger*



FEDERAL ELECTRIC CORPORATION

FIG BALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE II

TID

This Sheet is for Channel \* 1 to T.K.G. on BASE Group  
Looped at T.K.G.

1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.1 400 cps

#2 " 1.1 1000 cps

Levels of Harmonics:

1400	4.5	M	Volts
1600	21	M	Volts
1800	6	M	Volts
2000	5	M	Volts
2400	5	M	Volts
3000	4	M	Volts

Final Distortion Figure from Formula  $\times 1.5$

Expected Limits: 2% one way 5% Loop

DATE 12/10/63

TESTER *R. J. Smith*

SUPERVISOR

*Arthur Hunt*

GRADER

*Ralph L. Huger*



FEDERAL ELECTRIC CORPORATION

DIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE II

This Sheet is for Channel # 2 to T.K.F. on BASE Group

Looped at T.K. G.

1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.15 400 cps

#2 " 1.18 1000 cps

Levels of Harmonics: 1600 23.5 M Volts

1800 14 M Volts

2000 6 M Volts

2400 20.5 m

3000 10 M Volts

Final Distortion Figure from Formula  $\times 16$

Expected Limits: 2% one way: 5% Loop

DATE 12/11/63

TESTER B. L. Ligon

SUPERVISOR [Signature]

QA Patrick Hunt

CREA Ralph S. Kruger



FEDERAL ELECTRIC CORPORATION

BIG BALLY TV PROJECT

DATA SHEET

SYSTEM TEST PHASE II

This Sheet is for Channel # 3 to T.K.G. on BASE Group  
Looped at T.K.G.

I. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: 11 Volts 1.2 400 cps

82 " 1/15 1000 cps

Levels of Harmonics:	600	24	M	Volts
	1400	12.5	M	Volts
	1600	19	M	Volts
	1800	9	M	Volts
	2000	10	M	Volts
	2400	15.5	M	Volts
	3000	23	M	Volts

Final Distortion Figure from Formula x27

Expected Limits: 2% one way: 5% Loop

DATE 12/11/63

TESTER

SUPER

QA

GEN

*B. Signor*

*R. Elster*

*Patricia Hunt*

*Ralph S. Hager*



FEDERAL ELECTRONIC CORPORATION

BIG RAINY II PROJECT

DATA SHEET

SYSTEM TEST PHASE II

This Sheet is for Channel # 4 to T.K.G. on BASE Group  
Looped at T.K.G.

1. Harmonic Distortion.

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.2 400M c ps  
#2 " 1.15 1000 cps

Levels of Harmonics:

600	<u>10.5</u>	<u>M</u>	<u>Volts</u>
1400	<u>13</u>	<u>M</u>	<u>Volts</u>
1600	<u>21</u>	<u>M</u>	<u>Volts</u>
1800	<u>6</u>	<u>M</u>	<u>Volts</u>
2000	<u>7</u>	<u>M</u>	<u>Volts</u>

Final Distortion Figure from Formula 1.7

Expected Limits: 2% one way: 5% Loop

DATE 12/11/63

TESTER R. S. Jones

SUPTR [Signature]

QA Patrick Hunt

SECTA Ralph S. Bruger



FEDERAL ELECTRIC CORPORATION

BIG BALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE II

This Sheet is for Channel # 5 to T.K.G. BASE Group  
Looped at T.K.G.

1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators #1 Volts 1.0 400 cps

#2 " 1.1 1000 cps

Levels of Harmonics:

2400 15 mv  
3000 21 mv

600 19.5 M

800 12.5 M

1200 10 M

1400 17 M

1600 30 M

1800 22 M

Final Distortion Figure from Formula = 35

Expected Limits: 2% one way 5% Loop

DATE 12/11/63

TESTER *B. Higgins*

SUPPLIER

CH *Arthur Hunt*

CEEA *Ralph S. Hager*



FEDERAL ELECTRIC CORPORATION

HIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE II

This Sheet is for Channel # 6 to T.K.G. on BASE Group

Looped at T.K.G.

1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.2 400 cps

#2 " 1.15 1000 cps

Levels of Harmonics:

	600	19	M
	800	6	M
2000	11	MV	
	1200	7.8	M
2400	10	MV	
	1400	12.5	M
	1600	20	M Volts
	1800	14	M Volts

Final Distortion Figure from Formula = X23

Expected Limits: 2% one way 5% Loop

DATE 12/11/63

TESTED *B. L. Spier*

SUPER *Blair*

QA *Arthur Hunt*

GESE *Ralph S. Huger*



FEDERAL ELECTRIC CORPORATION

PIC DALLY 17 PROJECT

DATA SHEET

SYSTEM TEST PHASE II

This Sheet is for Channel # 7 to T.K.G. on BASE Group

Loaded at T.KG

1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.1 4.00cps

#2 1.1 1000 cps

Levels of Harmonics: 1600 26 M Volts

1800 7 M Volts

2000 9 M Volts

3000 13.5 M Volts

Volts

Volts

Final Distortion Figure from Formula  $\times 2$

Expected Limits: 2% one way 5% loop

DATE 12/11/63

TESTER *C. L. Jones*

SUPER *R. L. Carter*

QA *Patrick Hunt*

GEN *Ralph S. Bringer*



FEDERAL ELECTRIC CORPORATION

BIG RALLY AT PROSPECT

DATA SHEET

SYSTEM TEST PHASE II

This Sheet is for Channel # 8 to T.K.G. on BA SE Group  
Looped at T.K.B.

1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.2 400 cps

#2 " 1.15 1000 cps

Levels of Harmonics: 1600 26 M Volts

2000 9 MVolts

3000 5.5MVolts

Volts

Volts

Volts

Final Distortion Figure from Formula =  $\times 16$  8

Expected Limits: 2% one way: 4% loop.

DATE 12/11/63

TESTER B. Sigmund

SUPERVISOR J. Blantes

OF Patrick Hunt

GEFLA Ralph L. Kruger



FEDERAL ELECTRIC CORPORATION

BIG BALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE II

This Sheet is for Channel # 9 to TKG on BASE Group

Looped at TKG

1. Harmonic Distortion

Output Level Both Oscillators: \*1 -16 dBm

Output Level Both Oscillators: #1 Volts 1.2 4000 cps

#2 " 1.15 1000 cps

Levels of Harmonics: 600 7 M Volts

" " 1200 6.5 M Volts

2400 10 MV 1490 7.5 Volts

1600 25M

1800 14 M Volts

2000 6 M Volts

Final Distortion Figure from Formula: \*19 %

Expected Limits: 2% one way 5% Loop

DATE 12/11/63

TESTED [Signature]

SUPV [Signature]

C Catrick Blunt

GEETA Ralph S. Kruger



FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE II

This Sheet is for Channel # 10 to TKG on BASE Group

Loaded at TKG

1. Harmonic Distortion

Output Level Both Oscillators = 16 DBM

Output Level Both Oscillators #1 Voice 1.25 400 cps

#2 " 1.1 1000 cps

Levels of Harmonics:

600 5 M Volts

1200 5 M Volts

1600 22.5 M Volts

1800 16 M

2400 19 M Volts

3 000 13.5 M Volts

Final Distortion Figure from Formula = 12.5

Expected Limits: 2% one way 5% Loop

DATE 12/11/63

TESTER B. Ligon

SUPER

OF Patrick Hunt

GEETA Ralph S. Krueger



FEDERAL ELECTRIC CORPORATION

BIG RALLY '63 PROJECT

DATA SHEET

SYSTEM TEST, PHASE II

This Sheet is for Channel # 11 to TKG on BASE Group

Looped at TKG

1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.1 400 cps

#2 " 1.15 1000 cps

Levels of Harmonics:

600 10 M

1200 5 M

1600 22 M

1800 15 M

2400 16.5 M Volts

3000 5 M Volts

Final Distortion Figure from Formula = \*2.19

Expected Limits: 2% one way 5% Loop

DATE 12/11/63

TESTED *R. L. Hunter*

SUPER

*R. L. Hunter*

GEN

*Ralph S. Kruger*



FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE II

This Sheet is for Channel # 12 to TKG on BASE Group

Looped at TKG

1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.25 400 cps

#2 " 1.1 1000 cps

Levels of Harmonics:

		600	20	M
		800	17.5	M
2000	10 mv	1200	7	M
2400	15.5 mv	1400	26	M
3000	7 mv	1600	21	M Volts
		1800	15.5	M Volts

Final Distortion Figure from Formula ... 3.

Expected Limits: 2% one way 5% Loop

DATE 12/11/63

TESTER *B. L. Hunter*

SUPERVISOR *B. L. Hunter*

CHIEF *Patricia Hunt*

GEETA *Ralph Schreger*



BRIN/93

Sheet 2

Revised 11/29/63

## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

## DATA SHEET

## SYSTEM TEST, PHASE II

This Sheet  
is for TID - TKG  
Section.

## I. Circuit Monitor and Alarm

1. TKG, inoperative, cross connects not wired.

DATE 12 December 1963

TESTER

*B. Ligon*

SUPERVISOR

*Blanton*

Q

*Patrick Blunt*

GEETA

*Ralph S. Kruger*



BRIL/93  
Sheet 1  
Revised 11/29/63

FEDERAL ELECTRIC CORPORATION

BIG RALLY TO PROJECT

DATA SHEET

SYSTEM TEST PHASE II

TID

This Sheet is for Channel #8 to GPA on LOW Group  
Looped at GIM

1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.0 400 cps

#2 " 1.25 1000 cps

Levels of Harmonics:	1400	<u>11.5</u> M Volts
	1600	<u>5.3</u> M Volts
	1800	<u>9</u> M Volts
	2000	<u>11.5</u> M Volts
	2400	<u>25</u> M Volts
	3000	<u>9.2</u> M Volts

Final Distortion Figure from Formula = .33 %

Expected Limits: 2% one way: 5% loop.

DATE 12/10/63

TESTER *P. A. [signature]*

SUPERVISOR *R. Carter*

QA *Patrick Hunt*

GENIA *Ralph S. Kruger*



BRII/93  
Sheet 1  
Revised 11/29/63

## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

## DATA SHEET

## SYSTEM TEST PHASE II

This Sheet is for Channel # 9 to GPA on LOW Group  
Looped at GIM

## 1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.1 400 cps

#2 " 1.15 1000 cps

Levels of Harmonics:	1600	30	M Volts
	1800	13.5	M Volts
	2000	7	M Volts
	2400	23	M Volts
	3000	23	M Volts
			Volts

Final Distortion Figure from Formula = x3

Expected Limits: 2% one way: 5% Loop.

DATE 12/10/63

TESTER *B. A. Smith*

SUPERVISOR *R. Carter*

QA *Patrick Hunt*

GEEIA *Ralph S. Bruger*



RESEARCH ELECTRONIC CORPORATION

BIG BALLY 75 PROJECT

DATA SHEET

SYSTEM TEST PHASE II

TID

This Sheet is for Channel # 7 to TKG BA SE Group

CH# 3 Coupled at T.C.O

1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: 1.1 Volts 400 cps

1.1 1000 cps

Levels of Harmonics

1600 30 M

1800 13 M

2000 6 M

2400 7 M

3000 9 M Volts

Volts

Final Distortion Figure from Formula: x22

12/11/63

*E. L. Smith*  
*Ralph S. Krueger*  
*Robert Hunt*



LITTEAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE II

TID

This Sheet is for Channel # 7 to TKG on GRP-1 HI Group

CH- # 4 Looped at TCO

1. Harmonic Distortion

Output Level Both Oscillators: -16 DBM

Output Level Both Oscillators: #1 Volts 1.25 400 cps

#2 " 1.25 1000 cps

Levels of Harmonics:

1600 20 M

1800 13 M

2000 18 M

2400 12 M

3000 17 M Volts

Volts

Final Distortion Figure from Formula = x2.

Expected Limits: 2% one way 5% loop

DATE 12/11/63

TESTER *B. Azmon*

SUPERVISOR

*Patrick Hunt*

*Ralph S. Hugel*

1-42



FEDERAL ELECTRIC CORPORATION

BIG BALLY II PROJECT

DATA SHEET

SYSTEM TEST, PHASE II

(Part A) 1,000 Cycle Level Adjustment

Low Group	From 1 to 2	From 2 to 1	Loop Reading
CH# 7 TID CPA	+ 7 dbm	+ 7 dbm	+ 7.2 dbm
CH# 8 TID STACH#6	+ 7 *1*2 dbm	+ 7 dbm	+ 7 dbm
CH# 7 TID *3 TIC CH# 7	+ 7 dbm	+ 7 dbm	+ 7 dbm
CH# 7 TID GIM CH#3	+ 6.8 *4 dbm	+ 7 dbm	+ 7.4 dbm
CH# 8 TID B-GRPKG	+ 7 dbm	+ 7 dbm	+ 7.3 dbm
CH# 7 TID TIC CH#3	+ 7 *6 dbm	+ 7 dbm	+ 7 *5 dbm
CH# 8 TID TAY CH#3	+ 7 dbm	+ 7 dbm	+ 7 dbm
CH# 7 TID TCO CH#3	+ 7 dbm	+ 7 dbm	+ 7 dbm

Expected level following adjustment = +7.0 dbm +0.5 db

\*1. Cross talk on channel 6 from order wire.

\* 2. A/2c Makifone performed this test no F.E.C. personnel. DATE 10 & 11 Dec, 1963

\* 3. Beacon frequencies from BLDG, at TIC feeds in on all channels.

\* 4. AF monitor at GIM during this test was A/2c D.L. Layton

\* 5. Extremely noisy.

\* 6. A/2c Tayler AF monitor at TES.

TESTED B. Layton

SUPD

GEN

*R. Layton*  
*R. Clarke*  
*Patrick Hunt*  
*Ralph S. Bruger*



FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST, PHASE II

1 (Part B) CHANNEL NOISE MEASUREMENTS (ONE TIME MEASUREMENTS)

LOW GROUP		From 1 to 2		From 2 to 1		Loop	
1	2						
CH #7 & TID	GPA	14	dba	18.5	dba	19.8	dba
CH# 8 TID *	GTA CH# 6	25	dba	24	dba	26.5	dba
CH# 7 TID	TIC CH# 7	13	dba	16.5	dba	20	dba
CH# 7 TID *	GIM CH # 3	19	dba	21.7	dba	23.6	dba
CH# 8 TID B-GRP	TKG	17	dba	19	dba	21	dba
CH# 7 TID	TES CH#3 *	24	dba	23	dba	27	dba
CH# 8 TID	TAL CH#3	23	dba	19	dba	24	dba
CH# 7 TID *	TCO CH# 2	21	dba	24	dba	27	dba
CH# 7 TID GRP-1 TKG		20	dba	19	DBA	22	dba
Expected Readings							

At TID and at GPA 26.4 dba; Loop 29.4 dba  
 At TID " " GTA 28.6 dba; Loop 31.6 dba  
 At TID " " TIC 25.1 dba; Loop 28.1 dba  
 At TID " " GIM 28.6 dba; Loop 31.6 dba  
 At TID " " TKG 26.4 dba; Loop 29.4 dba  
 At TID " " TES 28.6 dba; Loop 31.6 dba  
 At TID " " TAL 25.6 dba; Loop 28.6 dba  
 At TID " " TCO 28.6 dba; Loop 31.6 dba

- \* 1. AF A/1c Makafone performed check.
- \* 2. AF monitor at GIM during test was A/2c D.L.

All values are corrected for zero dba swd. level

Layton

DATE 10&11 Dec. 1963

TESTER

SUPER

QA

GLIA

- \* 3. A/2c Tayler AF monitor at TES
- \* 4. A/2c Katz AF monitor at TCO.

*[Signatures]*  
 B. J. [unclear]  
 [unclear]  
 [unclear]  
 Ralph L. Heger



## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

## DATA SHEET

## SYSTEM TEST, PHASE II

*TID*

## 1. (Part A) 1,000 Cycle Level Adjustment

		From 1 to 2	From 2 to 1	Loop Reading
1	2			
TID	GPA	dbm	dbm	dbm
TID	GTA	dbm	dbm	dbm
CH# 5 TID	TIC	+ 7 dbm	+ 7 dbm	+ 7 dbm
CH# 3 TID	X-XX	+ 7 dbm	+ 7 dbm	+ 7 dbm
TID	TKG	dbm	dbm	dbm
TID	TES	dbm	dbm	dbm
TID	TAL	dbm	dbm	dbm
TID	TCO	dbm	dbm	dbm

Expected level following adjustment = +7.0 dbm +0.5 db.

DATE 10 &amp; 11 Dec, 1963

TESTER *R. L. Simon*SUPER *R. E. Carter*QA *Patricia Hunt*GEEIA *Ralph S. Kruger*



FEDERAL ELECTRIC CORPORATION

BIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST, PHASE II

2 (Part B) CHANNEL NOISE MEASUREMENTS (ONE TIME MEASUREMENTS)

1	2	From 1 to 2	From 2 to 1	Loop
TID	GPA	_____ dba	_____ dba	_____ dba
TID	GTA	_____ dba	_____ dba	_____ dba
CH# 5 TID	TIC	12/5 dba	13 dba	18 dba
CH# 3 TID	TIC XXXX	13 dba	16 dba	17 dba
TID	TKG	_____ dba	_____ dba	_____ dba
TID	TES	_____ dba	_____ dba	_____ dba
TID	TAL	_____ dba	_____ dba	_____ dba
TID	TCO	_____ dba	_____ dba	_____ dba

Expected Readings.

At TID and at CPA 26.4 dba; Loop 29.4 dba  
 At TID " " GTA 28.6 dba; Loop 31.6 dba  
 At TID " " TIC 25.1 dba; Loop 26.1 dba  
 At TID " " GIN 28.6 dba; Loop 31.6 dba  
 At TID " " TKG 26.4 dba; Loop 29.4 dba  
 At TID " " TES 28.6 dba; Loop 31.6 dba  
 At TID " " TAL 28.6 dba; Loop 31.6 dba  
 At TID " " TCO 28.6 dba; Loop 31.6 dba

All values are corrected  
 for zero dbm. swbd. level

DATE 10 & 11 Dec, 1963

TESTER *[Signature]*

SUPERVISOR *[Signature]*

QA *[Signature]*

GEEIA *[Signature]*



## FEDERAL ELECTRIC CORPORATION

## BIG PALLY II PROJECT

## DATA SHEET

## SYSTEM TEST, PHASE II

## 1. Insertion Loss vs. Frequency

Circuits: TID to TCO  
TID to GIMThis Sheet is for TID to TCO  
Test GRP# 1

Frequency	Expected	CH# 7TID Reading At	CH# 5 TCO Reading At
1,000	+2.0 dbm $\pm$ 0.5db	+ 7 <del>+X</del> dbm	+ 7 dbm
200	+1.5-5.0 db	+ 7 dbm	+ 7 dbm
400	+1.5-3.0 db*	+ 6.5 dbm	+ 6.5 dbm
600	+1.5-1.8 db*	+ 7.7 dbm	+ 7.8 dbm
2,000	+1.5-1.3 db*	+ 7 dbm	+ 8.4 dbm
3,000	+1.5-2.8 db*	+ 6.5 dbm	+ 8 dbm
3,400	+1.5-5.0 db*	+ 6 dbm	+ 6.5 dbm

\*with respect to 1,000 cycle level.

The calculations for the limits above are for straight run measurements in any direction.

N2C SPENCER, AF monitor  
AT TCO

DATE 12/19/63

TESTER

SUPERV

CERIF

*R. L. Spencer*  
*Blair*  
*Patrick Hunt*  
*Ralph L. Kruger*



# FEDERAL ELECTRIC CORPORATION

## BIG FALLS II PROJECT

### DATA SHEET

#### SYSTEM TEST, PHASE II

#### Insertion Loss vs. Frequency

Circuits: TID to TCO  
TID to GUN

This sheet is for TID to TCO  
Test Base Group

Frequency	Expected	TID- CH# 7 & 8	TCO CH# 3 & 4
1,000	+7.0 dbm ±0.5 db	+7 dbm	+7 dbm +7
300	+1.5-3.0 db	+7.5 dbm	+6 +5.75 dbm +6.2
400	+1.5-3.0 db	+7.2 dbm	+6.8 +6.5 dbm +7
600	+1.5-3.4 db	+8 dbm	+7.7 +8 dbm +8.2
2,400	+1.5-3.3 db	+7.4 dbm	+6.5 +7.5 dbm +7.5
1,000	+1.5-2.9 db	+7.4 dbm	+6 +7.7 dbm +7.3
3,000	+1.5-2.9 db	+5.3 dbm	+4.1 +2.5 dbm +6

\*With respect to 1,000 cycle level.

The calculations for the limits above are for straight way measurements in any direction.

DATE 10 Dec, 1963

TESTED *B. Legman*  
SURV *R. Carter*  
BY *John Hunt*  
GIVEN *Ralph L. Huger*



## FEDERAL ELECTRIC CORPORATION

## B/G RALLY II PROJECT

## DATA SHEET

## SYSTEM TEST PHASE II

TID

Envelope Delay Distortion LOW GROUP

Looped at GPA

Channels To	1	2	3	4	5	6	7	8	9	10	11	12
Frequency												
900	+100	+70	+60	+60	+100	+40	+50	+100	+40	+30	+45	+50
1,100	0	0	0	0	0	0	0	0	0	0	0	0
1,300	-10	-35	-20	-60	-55	-65	-35	-45	-35	-50	-5	0
1,400	-50	+5	+15	-0	0	+10	+5	-10	-10	-5	+30	+30
1,600	-50	+20	+65	+45	+50	-20	+35	+50	+20	+35	+55	+80
1,800	-110	-40	+20	+5	-5	-70	-20	0	-20	-20	+10	+80
2,000	-120	-60	-5	-30	+10	-70	0	-40	-20	-35	0	+150
2,200	-140	-70	-5	-35	-30	-60	-5	-40	-35	-45	+10	+175
2,400	-190	-60	-5	-20	+5	-15	-25	-80	-10	-30	+75	+250
2,600	-195	-10	+10	+25	+55	0	+30	-40	+25	+25	+40	+400

For expected maximum delays, please refer to Sheet No. 1.

DATE 12 DEC. 1963

TESTED

SUPERVISED

BY

REVIEWED

Patrick Blum

Ralph S. Krueger



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT

## DATA SHEET

## SYSTEM TEST PHASE II

TID

## 1. Envelope Delay Distortion

Group HIGH Looped at TKG

Channels	1	2	3	4	5	6	7	8	9	10	11	12
To: <u>TKG</u>												
Frequency												
900	+60	+95	+60	+50	+70	+85	+35	+75	+90	+70	+80	+60
1,000	0	0	0	0	0	0	0	0	0	0	0	0
1,200	-50	-40	+10	-50	+10	+10	-30	-10	0	-10	-25	-10
1,400	-40	-10	+15	0	+10	+20	+30	+10	-5	+50	0	0
1,600	0	+10	+40	+60	+40	+40	+50	+30	+10	+50	+20	-10
1,800	-40	-50	+10	+15	-20	-40	-10	-10	-25	-10	-35	-50
2,000	-50	-50	0	+30	+40	-60	+15	0	+50	-10	-25	-15
2,200	-60	-30	-10	+50	+5	-45	+20	-30	+10	+10	-10	-70
2,400	-70	-35	-10	+40	-5	-20	-15	-15	+30	-25	+30	-60
2,600	-70	+30	-50	+95	+70	-35	+20	+60	+70	0	+55	+5

## Expected Maximum Delays:

- 1) Both Low Groups to GPA and to TKG-320 micro-seconds except Channels 1 and 12 which may exceed this value. Because of the filter design for the Low Group no limits can be assigned.
- 2) High Group channels to TKG-360 micro-seconds.
- 3) Loop #I TCO-640 micro-seconds except channels 1 and 12. Channels 1 and 12 may lie out of limits as stated above.
- 4) Loop #II TCO (High Group TID-TKG)-680 micro-seconds.
- 5) Loop #III-GIM same as Loop #1 (3).

DATE 12 DEC. 1963

TESTER [Signature]

SUPERVISOR [Signature]

QA Patrick Hunt

GEEIA Ralph S. Huger



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT

## DATA SHEET

## SYSTEM TEST, PHASE II

1. Envelope Delay Distortion **TID**Group BASE Looped at TKG

Channels	1	2	3	4	5	6	7	8	9	10	11	12
To: <u>TKG</u>												
Frequency												
900	+50	+70	+60	+40	+90	+100	+60	+80	+40	+80	+60	+40
1,000	0	0	0	0	0	0	0	0	0	0	0	0
1,200	-50	0	-30	-40	-50	-50	+20	-35	+50	-40	+20	-25
1,400	-40	+25	+50	-20	+20	+50	+20	-35	+40	-20	+50	-35
1,600	0	+25	+50	+20	+40	+50	+30	+30	+80	0	+100	-5
1,800	-60	-50	+40	-20	+10	0	-20	-40	-30	-50	+30	-40
2,000	-60	-20	+50	-10	0	-30	-10	-50	-30	-50	+60	-20
2,200	-70	-50	+35	+10	+20	-35	0	-75	-30	-30	+50	-20
2,400	-70	-30	+20	+30	+25	-20	-15	-40	-20	-40	+70	-40
2,600	-60	-10	+90	+80	+90	+40	+40	-30	+20	+20	+100	0

## Expected Maximum Delays:

- 1) Both Low Groups to CPA and to TKG-320 micro-seconds except Channels 1 and 12 which may exceed this value. Because of the filter design for the Low Group no limits can be assigned.
- 2) High Group channels to TKG-360 micro-seconds.
- 3) Loop #I TCO-640 micro-seconds except channels 1 and 12. Channels 1 and 12 may lie out of limits as stated above.
- 4) Loop #II TCO (High Group TID-TKG)-680 micro-seconds.
- 5) Loop #III-GIM same as Loop #1 (3).

DATE 12 Dec 1943  
 TESTER [Signature]  
 SUPERVISOR [Signature]  
 QA Patrick Hunt  
 GEETA Ralph S. Kruger



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT

## DATA SHEET

## SYSTEM TEST PHASE II

1. Envelope Delay Distortion <sup>TID</sup> TO GPA CHAN 7, GPA TO GJM CHAN 3 & 4.  
Group \_\_\_\_\_ Looped at GJM

Channels	1	2	3	4	5	6	7	8	9	10	11	12
To: 3 & 4												
Frequency												
900			+130	+110								
1,000			0	0								
1,200			-45	-70								
1,400			+10	+30								
1,600			+60	+70								
1,800			-30	0								
2,000			-50	+20								
2,200			-70	0								
2,400			+30	+120								
2,600												

## Expected Maximum Delays:

- Both Low Groups to GPA and to TKG-320 micro-seconds except Channels 1 and 12 which may exceed this value. Because of the filter design for the Low Group no limits can be assigned.
- High Group channels to TKG-360 micro-seconds.
- Loop #I TCO-640 micro-seconds except channels 1 and 12. Channels 1 and 12 may lie out of limits as stated above.
- Loop #II TCO (High Group TID-TKG)-680 micro-seconds.
- Loop #III-GJM same as Loop #1 (3).

DATE 10 DEC 1963  
 TESTER [Signature]  
 SUPERVISOR [Signature]  
 QA [Signature]  
 GEEIA Ralph S. Hugen



FEDERAL ELECTRIC CORPORATION

SIG RALLY II PROJECT

DATA SHEET

SYSTEM TEST PHASE II

TID

1. Envelope Delay Distortion

Measured at TCO

TJD CHAN 7 HIGH GROUP TO TXG, CHAN 4

TO TCO; CHAN 7 LOW GROUP TO TXG, CHAN 3 TO TCO.

Channels To	1	2	3	4	5	6	7	8	9	10	11	12
Frequency												
900			+100	+100								
1,000			0	0								
1,200			-25	-70								
1,400			-100	+20								
1,600			-60	+90								
1,800			+300	+30								
2,000			-25	0								
2,200			-55	-10								
2,400			-65	0								
2,600			-5	+60								

For expected maximum delays, please refer to Envelope Delay Distortion Test Report.

DATE 12 DEC, 1963

TESTED *J. H. Hottel*

SUPERVISOR *R. E. Carter*

BY *Patrick Hume*

COPIED *Ralph S. Kruger*



## NET LOSS VARIATION

BIG RALLY 11 PHASE TWO SYSTEMS TESTS

TID - GPA - GIM - GPA - TID - TKG - TLO - TKG - TID

VARIATION IN DB	$\leq 0$	$\leq \pm .5$	$\leq \pm 1.0$	$\leq \pm 1.5$	$\leq \pm 2.0$	TOTAL
NUMBER OF SAMPLES						
RUN # 1	0	36	33	13	1	83
RUN Percentages:	0%	43.5%	83%	98%	100%	
RUN # 2	21	40	16	0	3	80
RUN Percentages:	26%	76%	96%	96%	100%	
RUN #3	0	104	4	0	0	108
RUN %	0%	96.3%	100%	0%	0%	100%
RUN #4	0	73	4	0	0	77
RUN %	0%	94.8%	100%	0%	0%	100%
RUN #5	0	100%	0	0	0	100%
RUN %	0%	100%	0%	0%	0%	100%
RUN #6	0	63	6	0	0	69
RUN %	0%	91.3%	100%	0%	0%	100%
RUN #7	0	102	2	0	0	104
RUN %	0%	98%	100%	0%	0%	100%
RUN 8	0	69	2	0	0	71
RUN %	0%	97.1%	100%	0%	0%	100%



INTERVALS

BR II

# NOISE TESTS

CHANNEL NOISE  
CORRECTED FOR ZERO  
dbm LEVEL  
FIA WEIGHTING  
dba

DATE 24 DEC 1963

ROLL NO 1 THRU 8

LOOP # 3

TOTAL SAMPLES 601

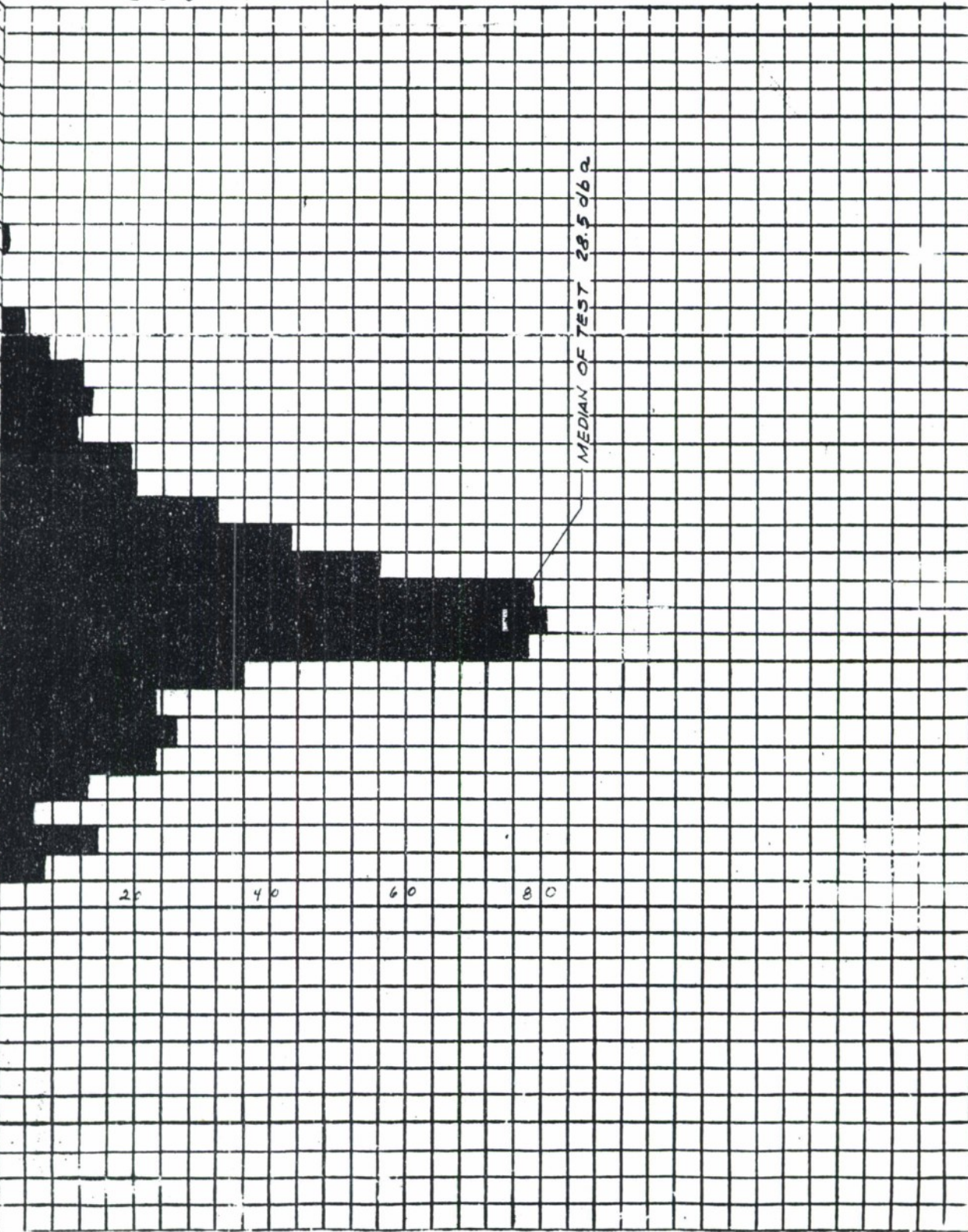
THIS SHEET \_\_\_\_\_

MEDIAN OF THIS  
TEST 28.5 dba

THIS RUN BEGAN  
ON 1715 Z 15 DEC 1963  
ENDED 0600 Z 24 DEC 63

GPA - TID - TKG

1 DIVISION = 4 SAMPLES



MEDIAN OF TEST 28.5 dba



3	2
C	3
A	4
A	5
A	6
B	7
A	8
3	9
C	0
5	1
0	2
5	3
0	4
5	5
0	6
5	7
0	8
5	9
0	0
5	1
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5	3
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5	7
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5	9
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5	1
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5	9
0	0
5	1
0	2
5	3
0	4
5	5
0	6
5	7
0	8
5	9
0	0
5	1
0	2

# Noise Tests

CHANNEL NOISE  
CORRECTED FOR ZERO  
dbm LEVEL  
FIA WEIGHTING  
dba

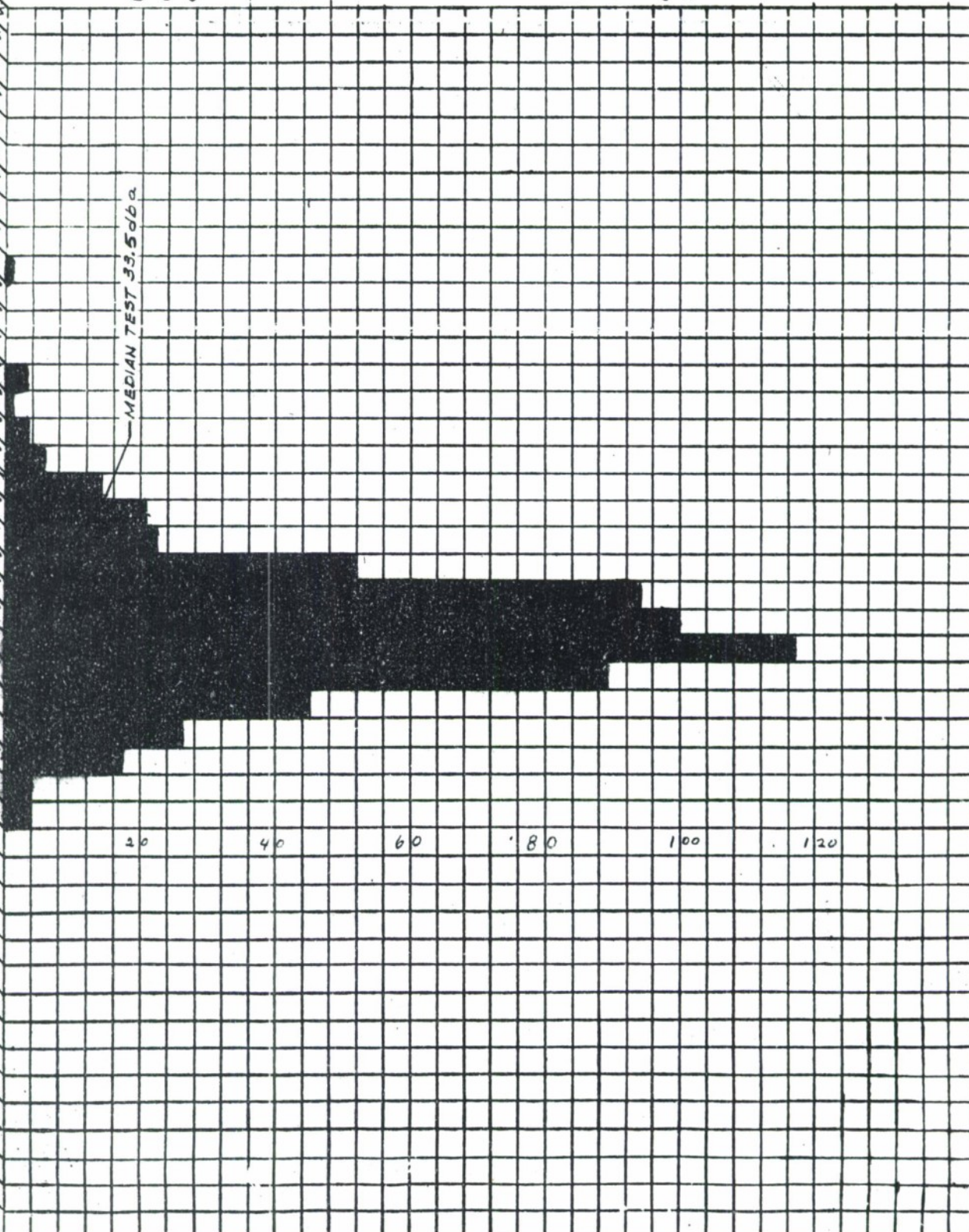
DATE 24 DEC 1963  
ROLL NO 1 THRU 8  
LOOP NO 2

TOTAL SAMPLES 618  
THIS SHEET       

MEDIAN OF THIS TEST 33.5062

THIS RUN BEGAN  
ON 175Z 15 DEC '63  
ENDED 0608Z 24 DEC '63

GIM-GPA-TID-TKG-TCO  
1 DIVISION = 4 SAMPLES





FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION G P ATransmission Path: From G P A Station to G H C Station

MC-50 Multiplex Rack No. \_\_\_\_\_

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A</u> v
	TP3	(1.0v±0.1v)	<u>      </u> v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>N/A</u> Int
	TP1	(1.0v ±0.1v)	<u>      </u> v
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>N/A</u> v
4.	CHANNEL CARRIER SUPPLY		
	Channel 1 64 kc	(1.1v min)	<u>1.15</u> v.
	Channel 2 68 kc	(1.1v min)	<u>1.15</u> v
	Channel 3 72 kc	(1.1v min)	<u>1.10</u> v
	Channel 4 76 kc	(1.1v min)	<u>1.16</u> v
	Channel 5 80 kc	(1.1v min)	<u>1.11</u> v
	Channel 6 84 kc	(1.1v min)	<u>1.15</u> v
	Channel 7 88 kc	(1.1v min)	<u>1.10</u> v
	Channel 8 92 kc	(1.1v min)	<u>1.10</u> v
	Channel 9 96 kc	(1.1v min)	<u>      </u> v
	Channel 10 100 kc	(1.1v min)	<u>      </u> v
	Channel 11 104 kc	(1.1v min)	<u>      </u> v
	Channel 12 108 kc	(1.1v min)	<u>      </u> v
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>2.2</u> v
6.	CHANNEL CARRIER LEAK		
	Channel 1 64 kc	(.13 mv max)	<u>.06</u> mv
	Channel 2 68 kc	(.13 mv max)	<u>.08</u> mv
	Channel 3 72 kc	(.13 mv max)	<u>.08</u> mv
	Channel 4 76 kc	(.13 mv max)	<u>.06</u> mv
	Channel 5 80 kc	(.13 mv max)	<u>.06</u> mv
	Channel 6 84 kc	(.13 mv max)	<u>.06</u> mv
	Channel 7 88 kc	(.13 mv max)	<u>.07</u> mv
	Channel 8 92 kc	(.13 mv max)	<u>.06</u> mv
	Channel 9 96 kc	(.13 mv max)	<u>      </u> mv
	Channel 10 100 kc	(.13 mv max)	<u>      </u> mv
	Channel 11 104 kc	(.13 mv max)	<u>      </u> mv
	Channel 12 108 kc	(.13 mv max)	<u>      </u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION G P ATransmission Path: From Station GPA to Station GHO

Multiplex Rack No. \_\_\_\_\_

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1mv max)	<u>N/A</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2.1</u> mv
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)		
	Channel 1 63 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 2 67 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 3 71 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 4 75 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 5 79 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 6 83 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 7 87 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 8 91 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 9 95 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
	Channel 10 99 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
	Channel 11 103 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
	Channel 12 107 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv

## 10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel 1	60.175 kc	(.125 mv $\pm 0.02$ mv)	<u>.37</u> mv
Channel 2	64.175 kc	(.125 mv $\pm 0.02$ mv)	<u>.40</u> mv
Channel 3	68.175 kc	(.125 mv $\pm 0.02$ mv)	<u>.37</u> mv
Channel 4	72.175 kc	(.125 mv $\pm 0.02$ mv)	<u>.40</u> mv
Channel 5	76.175 kc	(.125 mv $\pm 0.02$ mv)	<u>.41</u> mv
Channel 6	80.175 kc	(.125 mv $\pm 0.02$ mv)	<u>.36</u> mv
Channel 7	84.175 kc	(.125 mv $\pm 0.02$ mv)	<u>.38</u> mv
Channel 8	88.175 kc	(.125 mv $\pm 0.02$ mv)	<u>.37</u> mv
Channel 9	92.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 10	96.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 11	100.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 12	104.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv

-66db  $\pm 1$ db (.4mv)

.44 max

.34 min

Sheet 2 of 4



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION G P ATransmission Path: From Station G P A to Station G H O

Multiplex Rack No. \_\_\_\_\_

EXPECTED

ACTUAL

## 11. GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39Av Stations	(13.7mv±0.7 mv)	<u>13.7</u> mv
MW503A L05 Stations	(4.9 mv ±0.2 mv)	<u>N/A</u> mv
MRC-85 & FRC-39AV Modulator Input Level	(27.4 mv±1.5 mv)	<u>N/A</u> mv
MRC-80 Transmitter Input Level	(-10 dbm±0.5 dbm)	<u>-10</u> dbm
MW503A Transmitter Input Level	(7.7 mv ±0.3 mv)	<u>N/A</u> mv

## 12. GROUP RECEIVE LEVEL

(18 mv ± 1 mv)	<u>18.2</u> mv
----------------	----------------

## 13. CHANNEL RECEIVE LEVELS

VF REC Test Point

Channel 1	(-31 dbm ± 1 dbm)	<u>-31</u> dbm
Channel 2	(-31 dbm ± 1 dbm)	<u>-31</u> dbm
Channel 3	(-31 dbm ± 1 dbm)	<u>-31</u> dbm
Channel 4	(-31 dbm ± 1 dbm)	<u>-31</u> dbm
Channel 5	(-31 dbm ± 1 dbm)	<u>-31</u> dbm
Channel 6	(-31 dbm ± 1 dbm)	<u>-31</u> dbm
Channel 7	(-31 dbm ± 1 dbm)	<u>-31</u> dbm
Channel 8	(-31 dbm ± 1 dbm)	<u>-31</u> dbm
Channel 9	(-31 dbm ± 1 dbm)	_____ dbm
Channel 10	(-31 dbm ± 1 dbm)	_____ dbm
Channel 11	(-31 dbm ± 1 dbm)	_____ dbm
Channel 12	(-31 dbm ± 1 dbm)	_____ dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

BRII/41

STATION G P A

Transmission Path: From Station G P A to Station G H O

Multiplex Rack No. \_\_\_\_\_

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	_____ dbm

DATE 7 JANUARY 1964

TESTER R. C. Hibbons

SUPERVISOR [Signature]

QUALITY ASSURANCE [Signature]

GEEIA [Signature]

Sheet 4 of 4



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION GPATransmission Path: From GPA Station to GIM StationMC-50 Multiplex Rack No. 2

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A</u> v
	TP3	(1.0v±0.1v)	<u>N/A</u> v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>N/A</u> Int
	TP1	(1.0v ±0.1v)	<u>N/A</u> v
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>N/A</u> v
4.	CHANNEL CARRIER SUPPLY		
	Channel 1 108 <del>68</del> kc	(1.1v min)	<u>1.1</u> v
	Channel 2 104 <del>68</del> kc	(1.1v min)	<u>1.1</u> v
	Channel 3 100 <del>72</del> kc	(1.1v min)	<u>1.1</u> v
	Channel 4 96 <del>72</del> kc	(1.1v min)	<u>1.1</u> v
	Channel 5 80 kc	(1.1v min)	<u>    </u> v
	Channel 6 84 kc	(1.1v min)	<u>    </u> v
	Channel 7 88 kc	(1.1v min)	<u>    </u> v
	Channel 8 92 kc	(1.1v min)	<u>    </u> v
	Channel 9 96 kc	(1.1v min)	<u>    </u> v
	Channel 10 100 kc	(1.1v min)	<u>    </u> v
	Channel 11 104 kc	(1.1v min)	<u>    </u> v
	Channel 12 108 kc	(1.1v min)	<u>    </u> v
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>2</u> v
6.	CHANNEL CARRIER LEAK		
	Channel 1 108 <del>68</del> kc	(.13 mv max)	<u>.11</u> mv
	Channel 2 104 <del>68</del> kc	(.13 mv max)	<u>.03</u> mv
	Channel 3 100 <del>72</del> kc	(.13 mv max)	<u>.03</u> mv
	Channel 4 96 <del>72</del> kc	(.13 mv max)	<u>.06</u> mv
	Channel 5 80 kc	(.13 mv max)	<u>    </u> mv
	Channel 6 84 kc	(.13 mv max)	<u>    </u> mv
	Channel 7 88 kc	(.13 mv max)	<u>    </u> mv
	Channel 8 92 kc	(.13 mv max)	<u>    </u> mv
	Channel 9 96 kc	(.13 mv max)	<u>    </u> mv
	Channel 10 100 kc	(.13 mv max)	<u>    </u> mv
	Channel 11 104 kc	(.13 mv max)	<u>    </u> mv
	Channel 12 108 kc	(.13 mv max)	<u>    </u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIFLEX TEST

STATION            GPA

Transmission Path: From Station            GPA to Station            GIM

Multiplex Rack No. 2

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1rav max)	<u>N/A</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2.1</u> mv
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)		
	Channel 1	<del>63</del> kc 107 (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 2	<del>67</del> kc 103 (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 3	<del>71</del> kc 99 (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 4	<del>75</del> kc 95 (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 5	79 kc (7.8 mv $\pm 0.8$ mv)	<u>          </u> mv
	Channel 6	83 kc (7.8 mv $\pm 0.8$ mv)	<u>          </u> mv
	Channel 7	87 kc (7.8 mv $\pm 0.8$ mv)	<u>          </u> mv
	Channel 8	91 kc (7.8 mv $\pm 0.8$ mv)	<u>          </u> mv
	Channel 9	95 kc (7.8 mv $\pm 0.8$ mv)	<u>          </u> mv
	Channel 10	99 kc (7.8 mv $\pm 0.8$ mv)	<u>          </u> mv
	Channel 11	103 kc (7.8 mv $\pm 0.8$ mv)	<u>          </u> mv
	Channel 12	107 kc (7.8 mv $\pm 0.8$ mv)	<u>          </u> mv

10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel 1	<del>10460</del> 175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>0.4</u> mv
Channel 2	<del>10064</del> 175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>0.4</u> mv
Channel 3	9668 175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>0.4</u> mv
Channel 4	9272 175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>0.4</u> mv
Channel 5	76 175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>          </u> mv
Channel 6	80 175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>          </u> mv
Channel 7	84 175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>          </u> mv
Channel 8	88 175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>          </u> mv
Channel 9	92 175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>          </u> mv
Channel 10	96 175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>          </u> mv
Channel 11	100 175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>          </u> mv
Channel 12	104 175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>          </u> mv

-66db (0.4mv) 51db



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION GPATransmission Path: From Station GPA TO Station GIMMultiplex Rack No. 2

	EXPECTED	ACTUAL
11. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>N/A</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>4.9</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>N/A</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>N/A</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>7.7</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>N/A</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>15.5</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	_____ dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

BR11/41

STATION GPA

Transmission Path: From Station GPA to Station GIM

Multiplex Rack No. 2

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	_____ dbm

DATE 12 November 1963

TESTER [Signature]

SUPERVISOR [Signature]

QUALITY ASSURANCE [Signature]

GEEIA [Signature]



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION                      GPATransmission Path: From                      GPA Station to                      GPA StationMC-50 Multiplex Rack No.                      2

EXPECTED

ACTUAL

## 1. MASTER OSCILLATOR LEVELS

TP1	(1.0v±0.1v)	<u>NA</u> v
TP3	(1.0v±0.1v)	<u>NA</u> v

## 2. SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS

Scope Pattern	(locked)	<u>NA</u> Int
TP1	(1.0v ±0.1v)	<u>NA</u> v

## 3. HARMONIC GENERATOR LEVELS (15v pp min)

NA v

## 4. CHANNEL CARRIER SUPPLY

Channel 1	64 kc	(1.1v min)	<u>          </u> v.
Channel 2	68 kc	(1.1v min)	<u>          </u> v
Channel 3	72 kc	(1.1v min)	<u>          </u> v
Channel 4	76 kc	(1.1v min)	<u>          </u> v
Channel 5	80 kc	(1.1v min)	<u>          </u> v
Channel 6	84 kc	(1.1v min)	<u>1.1</u> v
Channel 7	88 kc	(1.1v min)	<u>1.1</u> v
Channel 8	92 kc	(1.1v min)	<u>.8</u> v
Channel 9	96 kc	(1.1v min)	<u>1.1</u> v
Channel 10	100 kc	(1.1v min)	<u>          </u> v
Channel 11	104 kc	(1.1v min)	<u>          </u> v
Channel 12	108 kc	(1.1v min)	<u>          </u> v

## 5. GROUP CARRIER SUPPLY (2v±0.2v)

N/A v

## 6. CHANNEL CARRIER LEAK

Channel 1	64 kc	(.13 mv max)	<u>          </u> mv
Channel 2	68 kc	(.13 mv max)	<u>          </u> mv
Channel 3	72 kc	(.13 mv max)	<u>          </u> mv
Channel 4	76 kc	(.13 mv max)	<u>          </u> mv
Channel 5	80 kc	(.13 mv max)	<u>.09</u> <u>.16</u> mv
Channel 6	84 kc	(.13 mv max)	<u>.04</u> mv
Channel 7	88 kc	(.13 mv max)	<u>.07</u> mv
Channel 8	92 kc	(.13 mv max)	<u>.11</u> <u>.16</u> mv
Channel 9	96 kc	(.13 mv max)	<u>          </u> mv
Channel 10	100 kc	(.13 mv max)	<u>          </u> mv
Channel 11	104 kc	(.13 mv max)	<u>          </u> mv
Channel 12	108 kc	(.13 mv max)	<u>.11</u> mv



BR11/41  
sheet 1 of 4

SITE GPA(GTA)

REF: DD/250 Item # 7

6 Feb. 1964

6. Channel carrier leak.

Channel 1	108kc
Channel 5	92KC
Channel 8	80KC

.11mv

.09mv

.11mv

MC:mc

2-9A



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION GPATransmission Path: From Station GPA to Station GTAMultiplex Rack No. 2.

## EXPECTED

## ACTUAL

7. GROUP CARRIER LEAK (1mv max) NA mv
8. SIGNALLING SUPPLY LEVEL (2v.  $\pm 0.2v$ ) 2.1 mv
9. CHANNEL TRANSMIT LEVEL AT GROUP LEVEL  
(Input to Channel Modulator -1000 cps at -16 dbm)

Channel 15	63 kc	92	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 16	67 kc	88	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 37	71 kc	84	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 48	75 kc	80	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 5	79 kc		(7.8 mv $\pm 0.8$ mv)	mv
Channel 6	83 kc		(7.8 mv $\pm 0.8$ mv)	mv
Channel 7	87 kc		(7.8 mv $\pm 0.8$ mv)	mv
Channel 8	91 kc		(7.8 mv $\pm 0.8$ mv)	mv
Channel 9	95 kc		(7.8 mv $\pm 0.8$ mv)	mv
Channel 10	99 kc		(7.8 mv $\pm 0.8$ mv)	mv
Channel 11	103 kc		(7.8 mv $\pm 0.8$ mv)	mv
Channel 12	107 kc		(7.8 mv $\pm 0.8$ mv)	mv

10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel 1	60.175 kc	(.125 mv $\pm 0.02$ mv)	mv
Channel 2	64.175 kc	(.125 mv $\pm 0.02$ mv)	mv
Channel 3	68.175 kc	(.125 mv $\pm 0.02$ mv)	mv
Channel 4	72.175 kc	(.125 mv $\pm 0.02$ mv)	mv
Channel 5	88.175 kc	(.125 mv $\pm 0.02$ mv)	<u>0.4</u> mv
Channel 6	84.175 kc	(.125 mv $\pm 0.02$ mv)	<u>0.4</u> mv
Channel 7	80.175 kc	(.125 mv $\pm 0.02$ mv)	<u>0.4</u> mv
Channel 8	76.175 kc	(.125 mv $\pm 0.02$ mv)	<u>0.4</u> mv
Channel 9	92.175 kc	(.125 mv $\pm 0.02$ mv)	mv
Channel 10	96.175 kc	(.125 mv $\pm 0.02$ mv)	mv
Channel 11	100.175 kc	(.125 mv $\pm 0.02$ mv)	mv
Channel 12	104.175 kc	(.125 mv $\pm 0.02$ mv)	mv

-66 db (94 mv) 51 db

Sheet 2 of 4



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION GPATransmission Path: From Station GPA TO Station GTAMultiplex Rack No. 2

	EXPECTED	ACTUAL
11. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>NA</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>4.9</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>NA</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>NA</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>7.7</u> mv

12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>NA</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>15.5</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>NA</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18</u> mv

## 13. CHANNEL RECEIVE LEVELS

VF REC Test Point

Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>      </u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>      </u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>      </u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>      </u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>      </u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>      </u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>      </u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>      </u> dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

BRH/41

STATION GPA

Transmission Path: From Station GPA to Station GTA

Multiplex Rack No. 2

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	+7 dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	+7 dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	+7 dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	+7 dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	dbm

DATE 15 Nov. 1963

TESTER G. J. Schreyer

SUPERVISOR G. J. Schreyer

QUALITY ASSURANCE W. C. Criss

GEKID Bernard A. Holman

Sheet 4 of 4

\* GROUP CARRIER SUPPLY PREVIOUSLY RECEIVED  
AND NOW AFCS PROPERTY. ME



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION GPATransmission Path: From GPA Station to TID StationMC-50 Multiplex Rack No. 102

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>NA</u> v
	TP3	(1.0v±0.1v)	<u>NA</u> v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>OK</u> Int
	TP1	(1.0v ±0.1v)	<u>1.0</u> v
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>N/A</u> v
4.	CHANNEL CARRIER SUPPLY		L.G. H.G.
	Channel 1 64 kc	(1.1v min)	<u>1.1</u> v. 1.1
	Channel 2 68 kc	(1.1v min)	<u>1.1</u> v 1.1
	Channel 3 72 kc	(1.1v min)	<u>1.1</u> v 1.1
	Channel 4 76 kc	(1.1v min)	<u>1.1</u> v 1.1
	Channel 5 80 kc	(1.1v min)	<u>1.1</u> v 1.1
	Channel 6 84 kc	(1.1v min)	<u>1.1</u> v 1.1
	Channel 7 88 kc	(1.1v min)	<u>1.1</u> v 1.1
	Channel 8 92 kc	(1.1v min)	<u>1.1</u> v 1.1
	Channel 9 96 kc	(1.1v min)	<u>1.1</u> v 1.1
	Channel 10 100 kc	(1.1v min)	<u>1.1</u> v 1.1
	Channel 11 104 kc	(1.1v min)	<u>1.1</u> v 1.1
	Channel 12 108 kc	(1.1v min)	<u>1.1</u> v 1.1
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>2.0</u> v
6.	CHANNEL CARRIER LEAK		
	Channel 1 64 kc	(.13 mv max)	<u>.08</u> mv .125
	Channel 2 68 kc	(.13 mv max)	<u>.085</u> mv .06
	Channel 3 72 kc	(.13 mv max)	<u>.09</u> mv .045
	Channel 4 76 kc	(.13 mv max)	<u>.09</u> mv .06
	Channel 5 80 kc	(.13 mv max)	<u>.11</u> mv .11
	Channel 6 84 kc	(.13 mv max)	<u>.075</u> mv .19 -
	Channel 7 88 kc	(.13 mv max)	<u>.075</u> mv .14 -
	Channel 8 92 kc	(.13 mv max)	<u>.04</u> mv .14 -
	Channel 9 96 kc	(.13 mv max)	<u>.13</u> mv .02
	Channel 10 100 kc	(.13 mv max)	<u>.01</u> mv .03
	Channel 11 104 kc	(.13 mv max)	<u>.09</u> mv .11
	Channel 12 108 kc	(.13 mv max)	<u>.06</u> mv .2 -



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION GPaTransmission Path: From Station GPa to Station T10Multiplex Rack No. 102

## EXPECTED

L.G. H.G.  
ACTUAL7. GROUP CARRIER LEAK (1mv max) 1.8 mv8. SIGNALLING SUPPLY LEVEL (2v.  $\pm 0.2v$ ) 2 mv9. CHANNEL TRANSMIT LEVEL AT GROUP LEVEL  
(Input to Channel Modulator -1000 cps at -16 dbm)

L.G. H.G.

Channel	Freq (kc)	Expected (mv)	Actual (mv)	L.G.	H.G.
Channel 1	63 kc	(7.8 mv $\pm 0.8$ mv)	7.8 mv		
Channel 2	67 kc	(7.8 mv $\pm 0.8$ mv)	7.8 mv		
Channel 3	71 kc	(7.8 mv $\pm 0.8$ mv)	7.8 mv		
Channel 4	75 kc	(7.8 mv $\pm 0.8$ mv)	7.8 mv		
Channel 5	79 kc	(7.8 mv $\pm 0.8$ mv)	7.8 mv		
Channel 6	83 kc	(7.8 mv $\pm 0.8$ mv)	7.8 mv		
Channel 7	87 kc	(7.8 mv $\pm 0.8$ mv)	7.8 mv		
Channel 8	91 kc	(7.8 mv $\pm 0.8$ mv)	7.8 mv		
Channel 9	95 kc	(7.8 mv $\pm 0.8$ mv)	7.8 mv		
Channel 10	99 kc	(7.8 mv $\pm 0.8$ mv)	7.8 mv		
Channel 11	103 kc	(7.8 mv $\pm 0.8$ mv)	7.8 mv		
Channel 12	107 kc	(7.8 mv $\pm 0.8$ mv)	7.8 mv		

10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel	Freq (kc)	Expected (mv)	Actual (mv)	L.G.	H.G.
Channel 1	60.175 kc	(.125 mv $\pm 0.02$ mv)	.42 mv		.4
Channel 2	64.175 kc	(.125 mv $\pm 0.02$ mv)	.41 mv		.4
Channel 3	68.175 kc	(.125 mv $\pm 0.02$ mv)	.43 mv		.43
Channel 4	72.175 kc	(.125 mv $\pm 0.02$ mv)	.42 mv		.42
Channel 5	76.175 kc	(.125 mv $\pm 0.02$ mv)	.41 mv		.4
Channel 6	80.175 kc	(.125 mv $\pm 0.02$ mv)	.4 mv		.41
Channel 7	84.175 kc	(.125 mv $\pm 0.02$ mv)	.41 mv		.43
Channel 8	88.175 kc	(.125 mv $\pm 0.02$ mv)	.4 mv		.4
Channel 9	92.175 kc	(.125 mv $\pm 0.02$ mv)	.42 mv		.41
Channel 10	96.175 kc	(.125 mv $\pm 0.02$ mv)	.42 mv		.42
Channel 11	100.175 kc	(.125 mv $\pm 0.02$ mv)	.43 mv		.43
Channel 12	104.175 kc	(.125 mv $\pm 0.02$ mv)	.43 mv		

-66 db(.4 mv)  $\pm 1$  db

Sheet 2 of 4



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION GPATransmission Path: From Station GPA TO Station T1DMultiplex Rack No. 1 8 2

		EXPECTED	ACTUAL	
			L.G.	H.G.
II.	GROUP TRANSMIT LEVEL			
	MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>14</u> mv	<u>14</u>
	MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>NA</u> mv	<u>NA</u>
	MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>27.4</u> mv	<u>28.1</u>
	MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>NA</u> dbm	<u>NA</u>
	MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>NA</u> mv	<u>NA</u>
12.	GROUP RECEIVE LEVEL			
	GRP IN (TP7)			
	MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>13.4</u> mv	<u>13.8</u>
	MW-503A LOS ( <del>exp. GPA</del> ) <u>pa</u>	(15.5 mv $\pm$ 0.9 mv)	<u>NA</u> mv	<u>NA</u>
	<del>MW 503A LOS (GPA)</del> <u>GS-63832</u>	<del>(7.7 mv <math>\pm</math> 0.3 mv)</del>	<u>NA</u> mv	<u>NA</u>
	GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18</u> mv	<u>18</u>
13.	CHANNEL RECEIVE LEVELS			
	VF REC Test Point		L.G.	H.G.
	Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm	<u>-31</u>
	Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm	<u>-31</u>
	Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm	<u>-31</u>
	Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm	<u>-31</u>
	Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm	<u>-31</u>
	Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm	<u>-31</u>
	Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm	<u>-31</u>
	Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm	<u>-31</u>
	Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm	<u>-31</u>
	Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm	<u>-31</u>
	Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm	<u>-31</u>
	Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm	<u>-31</u>



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

BRH/41

STATION GPA

Transmission Path: From Station GPA to Station JLD

Multiplex Rack No. 142

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

L.G. H.G.

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm

+7  
↑  
+7

DATE 11-26-63

TESTER R. T. Gibbons

SUPERVISOR Spencer

QUALITY ASSURANCE W. C. ...

GREEN Ronald A. Palmer

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FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION GHOTransmission Path: From GHO Station to GPA StationMC-50 Multiplex Rack No. 1 (MRC-80)

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A</u> v
	TP3	(1.0v±0.1v)	<u>N/A</u> v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>RSK Int</u>
	TP1	(1.0v ±0.1v)	<u>1.0</u> v
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>20</u> v
4.	CHANNEL CARRIER SUPPLY		
	Channel 1	<del>64 kc</del> 108 KC (1.1v min)	<u>1.1</u> v.
	Channel 2	<del>68 kc</del> 104 KC (1.1v min)	<u>1.1</u> v
	Channel 3	<del>72 kc</del> 100 KC (1.1v min)	<u>1.1</u> v
	Channel 4	<del>76 kc</del> 96 KC (1.1v min)	<u>1.1</u> v
	Channel 5	<del>80 kc</del> 92 KC (1.1v min)	<u>1.1</u> v
	Channel 6	<del>84 kc</del> 88 KC (1.1v min)	<u>1.1</u> v
	Channel 7	<del>88 kc</del> 84 KC (1.1v min)	<u>1.1</u> v
	Channel 8	<del>92 kc</del> 80 KC (1.1v min)	<u>1.1</u> v
	Channel 9	<del>96 kc</del> 76 KC (1.1v min)	<u>1.1</u> v
	Channel 10	<del>100 kc</del> 72 KC (1.1v min)	<u>1.1</u> v
	Channel 11	<del>104 kc</del> 68 KC (1.1v min)	<u>1.1</u> v
	Channel 12	<del>108 kc</del> 64 KC (1.1v min)	<u>1.1</u> v
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>2</u> v
6.	CHANNEL CARRIER LEAK		
	Channel 1	<del>64 kc</del> 108 KC (.13 mv max)	<u>.11</u> mv
	Channel 2	<del>68 kc</del> 104 KC (.13 mv max)	<u>.08</u> mv
	Channel 3	<del>72 kc</del> 100 KC (.13 mv max)	<u>.10</u> mv
	Channel 4	<del>76 kc</del> 96 KC (.13 mv max)	<u>.08</u> mv
	Channel 5	<del>80 kc</del> 92 KC (.13 mv max)	<u>.09</u> mv
	Channel 6	<del>84 kc</del> 88 KC (.13 mv max)	<u>.01</u> mv
	Channel 7	<del>88 kc</del> 84 KC (.13 mv max)	<u>.05</u> mv
	Channel 8	<del>92 kc</del> 80 KC (.13 mv max)	<u>.05</u> mv
	Channel 9	<del>96 kc</del> 76 KC (.13 mv max)	<u>   </u> mv
	Channel 10	<del>100 kc</del> 72 KC (.13 mv max)	<u>   </u> mv
	Channel 11	<del>104 kc</del> 68 KC (.13 mv max)	<u>   </u> mv
	Channel 12	<del>108 kc</del> 64 KC (.13 mv max)	<u>   </u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
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MC-50 MULTIPLEX TEST

STATION GHOTransmission Path: From Station GHO to Station GPAMultiplex Rack No. 1(MRC-80)

	EXPECTED	ACTUAL
7. GROUP CARRIER LEAK	(1mv max)	* <u>1.1</u> mv <span style="float: right;">1-11-64</span>
8. SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2</u> mv
9. CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)		

Channel 1	63 kc	<del>107 KC</del>	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 2	67 kc	<del>103 KC</del>	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 3	71 kc	<del>99 KC</del>	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 4	75 kc	<del>95 KC</del>	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 5	79 kc	<del>91 KC</del>	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 6	83 kc	<del>87 KC</del>	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 7	87 kc	<del>83 KC</del>	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 8	91 kc	<del>79 KC</del>	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 9	95 kc	<del>75 KC</del>	(7.8 mv $\pm 0.8$ mv)	_____ mv
Channel 10	99 kc	<del>71 KC</del>	(7.8 mv $\pm 0.8$ mv)	_____ mv
Channel 11	103 kc	<del>67 KC</del>	(7.8 mv $\pm 0.8$ mv)	_____ mv
Channel 12	107 kc	<del>63 KC</del>	(7.8 mv $\pm 0.8$ mv)	_____ mv

## 10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel <del>112</del>	60.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>0.4</u> mv
Channel <del>211</del>	64.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>0.4</u> mv
Channel <del>310</del>	68.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>0.4</u> mv
Channel <del>49</del>	72.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>0.4</u> mv
Channel <del>58</del>	76.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>0.4</u> mv
Channel <del>67</del>	80.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>0.4</u> mv
Channel <del>76</del>	84.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>0.4</u> mv
Channel <del>85</del>	88.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>0.4</u> mv
Channel <del>94</del>	92.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	_____ mv
Channel <del>103</del>	96.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	_____ mv
Channel <del>112</del>	100.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	_____ mv
Channel <del>121</del>	104.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	_____ mv

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[-66 dB (0.04 mv)  $\pm 1$  dB]



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STATION GHOTransmission Path: From Station GHO TO Station GPAMultiplex Rack No. 1 (MRC-80)

	EXPECTED	ACTUAL
11. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>13.7</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>N/A</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>N/A</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>-10</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>N/A</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>18</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>N/A</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>      </u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>      </u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>      </u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>      </u> dbm



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BRII/41

STATION GHQ

Transmission Path: From Station GHQ to Station GPA

Multiplex Rack No. 1 (MRC-80)

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	+ 7 dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	+7 dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	+7 dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	+7 dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	+7 dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	+7 dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	+7 dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	+7 dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	dbm

DATE 7 January 1964

TESTER V. Quinn

SUPERVISOR W. H. H. H.

QUALITY ASSURANCE M. C. C.

GEEIA Ralph S. Bringer

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MC-50 MULTIPLEX TEST

STATION GHOTransmission Path: From GHO Station to GAG StationMC-50 Multiplex Rack No. 2

	EXPECTED	ACTUAL
1. MASTER OSCILLATOR LEVELS		
TP1	(1.0v±0.1v)	N/A v
TP3	(1.0v±0.1v)	NA v
2. SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
Scope Pattern	(locked)	RSK Int
TP1	(1.0v ±0.1v)	<u>1</u> v
3. HARMONIC GENERATOR LEVELS	(15v pp min)	<u>20</u> v
4. CHANNEL CARRIER SUPPLY		
Channel 1 <del>10864</del> kc	(1.1v min)	<del>1.1</del> v
Channel 2 <del>10468</del> kc	(1.1v min)	<del>1.1</del> v
Channel 3 <del>10072</del> kc	(1.1v min)	<del>1.1</del> v
Channel 4 <del>9676</del> kc	(1.1v min)	<del>1.1</del> v
Channel 5 <del>9280</del> kc	(1.1v min)	<u>1.1</u> v
Channel 6 <del>8884</del> kc	(1.1v min)	<u>1.2</u> v
Channel 7 <del>8488</del> kc	(1.1v min)	<u>1.1</u> v
Channel 8 <del>8092</del> kc	(1.1v min)	<u>1.2</u> v
Channel 9 <del>7696</del> kc	(1.1v min)	<del>1.1</del> v
Channel 10 <del>7400</del> kc	(1.1v min)	<del>1.1</del> v
Channel 11 <del>68104</del> kc	(1.1v min)	<del>1.1</del> v
Channel 12 <del>64108</del> kc	(1.1v min)	<del>1.1</del> v
5. GROUP CARRIER SUPPLY	(2v±0.2v)	N/A v
6. CHANNEL CARRIER LEAK		
Channel 1 64 kc	(.13 mv max)	<del>.13</del> mv
Channel 2 68 kc	(.13 mv max)	<del>.13</del> mv
Channel 3 72 kc	(.13 mv max)	<del>.13</del> mv
Channel 4 76 kc	(.13 mv max)	<del>.13</del> mv
Channel 5 <del>9280</del> kc	(.13 mv max)	<u>.06</u> mv
Channel 6 <del>8884</del> kc	(.13 mv max)	<u>.09</u> mv
Channel 7 <del>8488</del> kc	(.13 mv max)	<u>.02</u> mv
Channel 8 <del>8092</del> kc	(.13 mv max)	<u>.10</u> mv
Channel 9 96 kc	(.13 mv max)	<del>.13</del> mv
Channel 10 100 kc	(.13 mv max)	<del>.13</del> mv
Channel 11 104 kc	(.13 mv max)	<del>.13</del> mv
Channel 12 108 kc	(.13 mv max)	<del>.13</del> mv



FEDERAL ELECTRIC CORPORATION  
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STATION GHQTransmission Path: From Station GHQ to Station GAGMultiplex Rack No. 2

	EXPECTED	ACTUAL
7. GROUP CARRIER LEAK	(1mv max)	<u>N/A</u> mv
8. SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2v</u> mv
9. CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)		

Channel 1	63 kc	(7.8 mv $\pm 0.8$ mv)	<del>mv</del>
Channel 2	67 kc	(7.8 mv $\pm 0.8$ mv)	<del>mv</del>
Channel 3	71 kc	(7.8 mv $\pm 0.8$ mv)	<del>mv</del>
Channel 4	75 kc	(7.8 mv $\pm 0.8$ mv)	<del>mv</del>
Channel 5	91 79 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 6	87 83 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 7	83 87 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 8	79 91 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 9	95 kc	(7.8 mv $\pm 0.8$ mv)	<del>mv</del>
Channel 10	99 kc	(7.8 mv $\pm 0.8$ mv)	<del>mv</del>
Channel 11	103 kc	(7.8 mv $\pm 0.8$ mv)	<del>mv</del>
Channel 12	107 kc	(7.8 mv $\pm 0.8$ mv)	<del>mv</del>

10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel 1	60.175 kc	(.125 mv $\pm 0.02$ mv)	<del>mv</del>
Channel 2	64.175 kc	(.125 mv $\pm 0.02$ mv)	<del>mv</del>
Channel 3	68.175 kc	(.125 mv $\pm 0.02$ mv)	<del>mv</del>
Channel 4	72.175 kc	(.125 mv $\pm 0.02$ mv)	<del>mv</del>
Channel 5	88 76.175 kc	(.125 mv $\pm 0.02$ mv)	<u>0.4</u> mv
Channel 6	84 80.175 kc	(.125 mv $\pm 0.02$ mv)	<u>0.4</u> mv
Channel 7	80 84.175 kc	(.125 mv $\pm 0.02$ mv)	<u>0.4</u> mv
Channel 8	76 88.175 kc	(.125 mv $\pm 0.02$ mv)	<u>0.4</u> mv
Channel 9	92.175 kc	(.125 mv $\pm 0.02$ mv)	<del>mv</del>
Channel 10	96.175 kc	(.125 mv $\pm 0.02$ mv)	<del>mv</del>
Channel 11	100.175 kc	(.125 mv $\pm 0.02$ mv)	<del>mv</del>
Channel 12	104.175 kc	(.125 mv $\pm 0.02$ mv)	<del>mv</del>

-66 db(0.4 mv)  $\pm 1$  db

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FEDERAL ELECTRIC CORPORATION  
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MC-50 MULTIPLEX TEST

STATION GHOTransmission Path: From Station GHO to Station GAGMultiplex Rack No. 2

	EXPECTED	ACTUAL
11. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39Av Stations	(13.7mv ± 0.7 mv)	<u>N/A</u> mv.
MW503A LOS Stations	(4.9 mv ± 0.2 mv)	<u>4.9</u> mv
MRC-85 & FRC-39AV Modulator Input Level	(27.4 mv ± 1.5 mv)	<u>N/A</u> mv
MRC-80 Transmitter Input Level	(-10 dbm ± 0.5 dbm)	<u>N/A</u> dbm
MW503A Transmitter Input Level	(7.7 mv ± 0.3 mv)	<u>7.7</u> mv
12. GROUP RECEIVE LEVEL		
MW-503 LOS	(15.5mv ± 0.9)	<u>15.5mv</u>
GRP OUT(TP4)	(18 mv ± 1 mv)	<u>N/A</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm ± 1 dbm)	<del>dbm</del>
Channel 2	(-31 dbm ± 1 dbm)	<del>dbm</del>
Channel 3	(-31 dbm ± 1 dbm)	<del>dbm</del>
Channel 4	(-31 dbm ± 1 dbm)	<del>dbm</del>
Channel 5	(-31 dbm ± 1 dbm)	<del>-31 dbm</del>
Channel 6	(-31 dbm ± 1 dbm)	<del>-31 dbm</del>
Channel 7	(-31 dbm ± 1 dbm)	<del>-31 dbm</del>
Channel 8	(-31 dbm ± 1 dbm)	<del>-31 dbm</del>
Channel 9	(-31 dbm ± 1 dbm)	<del>dbm</del>
Channel 10	(-31 dbm ± 1 dbm)	<del>dbm</del>
Channel 11	(-31 dbm ± 1 dbm)	<del>dbm</del>
Channel 12	(-31 dbm ± 1 dbm)	<del>dbm</del>



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MC-50 MULTIPLEX TEST

BRII/41

STATION GHO

Transmission Path: From Station GHO to Station GAG

Multiplex Rack No. 2

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	<del>dbm</del>
Channel 2	(+7 dbm $\pm$ 0.5 db)	<del>dbm</del>
Channel 3	(+7 dbm $\pm$ 0.5 db)	<del>dbm</del>
Channel 4	(+7 dbm $\pm$ 0.5 db)	<del>dbm</del>
Channel 5	(+7 dbm $\pm$ 0.5 db)	+7 dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	+7 dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	+7 dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	+7 dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	<del>dbm</del>
Channel 10	(+7 dbm $\pm$ 0.5 db)	<del>dbm</del>
Channel 11	(+7 dbm $\pm$ 0.5 db)	<del>dbm</del>
Channel 12	(+7 dbm $\pm$ 0.5 db)	<del>dbm</del>

DATE 8 January 1964

TESTER V. Quinn

SUPERVISOR J. Mahoney

QUALITY ASSURANCE W. Coy

GEELA Ralph S. Kruger

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FEDERAL ELECTRIC CORPORATION  
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MC-50 MULTIPLEX TEST

STATION GHOTransmission Path: From GHO Station to GPE StationMC-50 Multiplex Rack No. 2

	EXPECTED	ACTUAL
1. MASTER OSCILLATOR LEVELS		
TP1	(1.0v±0.1v)	<u>N/A</u> v
TP3	(1.0v±0.1v)	<u>N/A</u> v
2. SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
Scope Pattern	(locked)	RSK Int
TP1	(1.0v ±0.1v)	<u>1.0</u> v
3. HARMONIC GENERATOR LEVELS	(15v pp min)	<u>20</u> v
4. CHANNEL CARRIER SUPPLY		
Channel 1 <del>108</del> 64 kc	(1.1v min)	<u>1.1</u> v.
Channel 2 <del>104</del> 68 kc	(1.1v min)	<u>1.2</u> v
Channel 3 <del>100</del> 72 kc	(1.1v min)	<u>1.2</u> v
Channel 4 <del>96</del> 76 kc	(1.1v min)	<u>1.2</u> v
Channel 5 80 kc	(1.1v min)	<u>1.2</u> v
Channel 6 84 kc	(1.1v min)	<u>1.2</u> v
Channel 7 88 kc	(1.1v min)	<u>1.2</u> v
Channel 8 92 kc	(1.1v min)	<u>1.2</u> v
Channel 9 96 kc	(1.1v min)	<u>1.2</u> v
Channel 10 100 kc	(1.1v min)	<u>1.2</u> v
Channel 11 104 kc	(1.1v min)	<u>1.2</u> v
Channel 12 108 kc	(1.1v min)	<u>1.2</u> v
5. GROUP CARRIER SUPPLY	(2v±0.2v)	<u>N/A</u> v
6. CHANNEL CARRIER LEAK		
Channel 1 <del>108</del> 64 kc	(.13 mv max)	<u>.09</u> mv
Channel 2 <del>104</del> 68 kc	(.13 mv max)	<u>.06</u> mv
Channel 3 <del>100</del> 72 kc	(.13 mv max)	<u>.06</u> mv
Channel 4 <del>96</del> 76 kc	(.13 mv max)	<u>.02</u> mv
Channel 5 80 kc	(.13 mv max)	<u>.02</u> mv
Channel 6 84 kc	(.13 mv max)	<u>.02</u> mv
Channel 7 88 kc	(.13 mv max)	<u>.02</u> mv
Channel 8 92 kc	(.13 mv max)	<u>.02</u> mv
Channel 9 96 kc	(.13 mv max)	<u>.02</u> mv
Channel 10 100 kc	(.13 mv max)	<u>.02</u> mv
Channel 11 104 kc	(.13 mv max)	<u>.02</u> mv
Channel 12 108 kc	(.13 mv max)	<u>.02</u> mv



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MC-50 MULTIPLEX TEST

STATION BRHTransmission Path: From Station GHO to Station GPEMultiplex Rack No. 2

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1mv max)	<u>N/A</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2V</u> mv
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)		
	Channel 1	<del>63 kc</del> 107 KC (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 2	<del>67 kc</del> 103 KC (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 3	<del>71 kc</del> 99 KC (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 4	<del>75 kc</del> 95 KC (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 5	<del>79 kc</del> 91 KC (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 6	<del>83 kc</del> 87 KC (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 7	<del>87 kc</del> 83 KC (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 8	<del>91 kc</del> 79 KC (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 9	<del>95 kc</del> 75 KC (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 10	<del>99 kc</del> 71 KC (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 11	<del>103 kc</del> 67 KC (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 12	<del>107 kc</del> 63 KC (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv

## 10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel 12	60.175 kc	(.125 mv $\pm 0.02$ mv)	<u>0.4</u> mv
Channel 2	64.175 kc	(.125 mv $\pm 0.02$ mv)	<u>0.4</u> mv
Channel 10	68.175 kc	(.125 mv $\pm 0.02$ mv)	<u>0.4</u> mv
Channel 9	72.175 kc	(.125 mv $\pm 0.02$ mv)	<u>0.4</u> mv
Channel 8	76.175 kc	(.125 mv $\pm 0.02$ mv)	<u>0.4</u> mv
Channel 7	80.175 kc	(.125 mv $\pm 0.02$ mv)	<u>0.4</u> mv
Channel 6	84.175 kc	(.125 mv $\pm 0.02$ mv)	<u>0.4</u> mv
Channel 5	88.175 kc	(.125 mv $\pm 0.02$ mv)	<u>0.4</u> mv
Channel 4	92.175 kc	(.125 mv $\pm 0.02$ mv)	<u>0.4</u> mv
Channel 3	96.175 kc	(.125 mv $\pm 0.02$ mv)	<u>0.4</u> mv
Channel 11	100.175 kc	(.125 mv $\pm 0.02$ mv)	<u>0.4</u> mv
Channel 1	104.175 kc	(.125 mv $\pm 0.02$ mv)	<u>0.4</u> mv

Sheet 2 of 4

[-66 dB (0.24 mv)  $\pm 100$ ]



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION GHOTransmission Path: From Station GHO TO Station GPEMultiplex Rack No. 2

	EXPECTED	ACTUAL
11. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>N/A</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>4.9</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>N/A</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>N/A</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>7.7</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>N/A</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>15.5</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>17.5</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

BRH/41

STATION GHO

Transmission Path: From Station GHO to Station GPE

Multiplex Rack No. 2

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	<u>X</u> dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>X</u> dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	<u>X</u> dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	<u>X</u> dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	<u>X</u> dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	<u>X</u> dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	<u>X</u> dbm

DATE 8 JAN 1964

TESTER V. Quinn

SUPERVISOR Ed Malcom

QUALITY ASSURANCE W. Caray

GEIA Ralph S. Heeger

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FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION GIMTransmission Path: From GIM Station to GPA Station

MC-50 Multiplex Rack No. \_\_\_\_\_

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A</u> v
	TP3	(1.0v±0.1v)	<u>N/A</u> v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>RSK</u> Int
	TP1	(1.0v ±0.1v)	<u>1</u> v
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>15</u> v
4.	CHANNEL CARRIER SUPPLY		
	Channel 1 64 kc	(1.1v min)	<u>1.1</u> v.
	Channel 2 68 kc	(1.1v min)	<u>1.1</u> v
	Channel 3 72 kc	(1.1v min)	<u>1.1</u> v
	Channel 4 76 kc	(1.1v min)	<u>1.1</u> v
	Channel 5 80 kc	(1.1v min)	_____ v
	Channel 6 84 kc	(1.1v min)	_____ v
	Channel 7 88 kc	(1.1v min)	_____ v
	Channel 8 92 kc	(1.1v min)	_____ v
	Channel 9 96 kc	(1.1v min)	_____ v
	Channel 10 100 kc	(1.1v min)	_____ v
	Channel 11 104 kc	(1.1v min)	_____ v
	Channel 12 108 kc	(1.1v min)	_____ v
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>n/a</u> v
6.	CHANNEL CARRIER LEAK		
	Channel 1 64 kc	(.13 mv max)	<u>.095</u> mv
	Channel 2 68 kc	(.13 mv max)	<u>.115</u> mv
	Channel 3 72 kc	(.13 mv max)	<u>.06</u> mv
	Channel 4 76 kc	(.13 mv max)	<u>.11</u> mv
	Channel 5 80 kc	(.13 mv max)	_____ mv
	Channel 6 84 kc	(.13 mv max)	_____ mv
	Channel 7 88 kc	(.13 mv max)	_____ mv
	Channel 8 92 kc	(.13 mv max)	_____ mv
	Channel 9 96 kc	(.13 mv max)	_____ mv
	Channel 10 100 kc	(.13 mv max)	_____ mv
	Channel 11 104 kc	(.13 mv max)	_____ mv
	Channel 12 108 kc	(.13 mv max)	_____ mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION GIMTransmission Path: From Station GIM to Station GPA

Multiplex Rack No. \_\_\_\_\_

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1mv max)	<u>N/A</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2 V</u> <del>xxx</del>
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)		
	Channel 1 63 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 2 67 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 3 71 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 4 75 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 5 79 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
	Channel 6 83 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
	Channel 7 87 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
	Channel 8 91 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
	Channel 9 95 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
	Channel 10 99 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
	Channel 11 103 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
	Channel 12 107 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv

## 10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel 1	60.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66db</u> <del>xxx</del>
Channel 2	64.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66db</u> <del>xxx</del>
Channel 3	68.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66db</u> <del>xxx</del>
Channel 4	72.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66db</u> <del>xxx</del>
Channel 5	76.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 6	80.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 7	84.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 8	88.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 9	92.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 10	96.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 11	100.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 12	104.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv

-66db(.04mv)/-1db

Sheet 2 of 4



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION GIMTransmission Path: From Station GIM TO Station GPA

Multiplex Rack No. \_\_\_\_\_

	EXPECTED	ACTUAL
II. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>N/A</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>4.9</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>N/A</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>N/A</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>7.7</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>N/A</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>15.5</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	_____ dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

BRII/41

STATION GIM

Transmission Path: From Station GIM to Station GPA

Multiplex Rack No. \_\_\_\_\_

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	_____ dbm

DATE 12 November 1963

TESTER [Signature]

SUPERVISOR [Signature]

QUALITY ASSURANCE [Signature]

GEBIA [Signature]

Sheet 4 of 4



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION G T ATransmission Path: From G T A Station to G P A Station

MC-50 Multiplex Rack No. \_\_\_\_\_

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A</u> v
	TP3	(1.0v±0.1v)	<u>N/A</u> v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>RSK</u> Int
	TP1	(1.0v ±0.1v)	<u>1.0</u> v
3.	HARMONIC GENERATOR LEVELS (15v pp min)		<u>15</u> v
4.	CHANNEL CARRIER SUPPLY		
	Channel 1 64 kc	(1.1v min)	<u>      </u> v
	Channel 2 68 kc	(1.1v min)	<u>      </u> v
	Channel 3 72 kc	(1.1v min)	<u>      </u> v
	Channel 4 76 kc	(1.1v min)	<u>      </u> v
	Channel 5 <sup>8</sup> 80 kc	(1.1v min)	<u>1.1</u> v
	Channel 6 <sup>7</sup> 84 kc	(1.1v min)	<u>1.1</u> v
	Channel 7 <sup>6</sup> 88 kc	(1.1v min)	<u>1.1</u> v
	Channel 8 <sup>5</sup> 92 kc	(1.1v min)	<u>1.1</u> v
	Channel 9 96 kc	(1.1v min)	<u>      </u> v
	Channel 10 100 kc	(1.1v min)	<u>      </u> v
	Channel 11 104 kc	(1.1v min)	<u>      </u> v
	Channel 12 108 kc	(1.1v min)	<u>      </u> v
⑤	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>N/A</u> v
6.	CHANNEL CARRIER LEAK		
	Channel 1 64 kc	(.13 mv max)	<u>      </u> mv
	Channel 2 68 kc	(.13 mv max)	<u>      </u> mv
	Channel 3 72 kc	(.13 mv max)	<u>      </u> mv
	Channel 4 76 kc	(.13 mv max)	<u>      </u> mv
	Channel 5 <sup>✓</sup> 80 kc	(.13 mv max)	<u>.07</u> mv
	Channel 6 <sup>7</sup> 84 kc	(.13 mv max)	<u>.11</u> mv
	Channel 7 <sup>6</sup> 88 kc	(.13 mv max)	<u>.10</u> mv
	Channel 8 <sup>5</sup> 92 kc	(.13 mv max)	<u>.05</u> mv
	Channel 9 96 kc	(.13 mv max)	<u>      </u> mv
	Channel 10 100 kc	(.13 mv max)	<u>      </u> mv
	Channel 11 104 kc	(.13 mv max)	<u>      </u> mv
	Channel 12 108 kc	(.13 mv max)	<u>      </u> mv

⑤ - NOT NECESSARY



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION G T ATransmission Path: From Station G T A to Station G P A

Multiplex Rack No. \_\_\_\_\_

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1rav max)	<u>N/A</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2 V</u> max
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)		
	Channel 1 63 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
	Channel 2 67 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
	Channel 3 71 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
	Channel 4 75 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
	Channel 5 79 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 6 83 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 7 87 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 8 91 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 9 95 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
	Channel 10 99 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
	Channel 11 103 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
	Channel 12 107 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv

## 10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel 1	60.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 2	64.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 3	68.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 4	72.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 5	76.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66db</u> max
Channel 6	80.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66db</u> max
Channel 7	84.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66db</u> max
Channel 8	88.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66db</u> max
Channel 9	92.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 10	96.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 11	100.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 12	104.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv

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± 1 dB



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION G T ATransmission Path: From Station G T A TO Station G P A

Multiplex Rack No. \_\_\_\_\_

	EXPECTED	ACTUAL
II. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>N/A</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>4.9</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>N/A</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>N/A</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>7.7</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>N/A</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>15.5</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	_____ dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
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MC-50 MULTIPLEX TEST

BRH/41

STATION G T A

Transmission Path: From Station G T A to Station G P A

Multiplex Rack No. \_\_\_\_\_

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	<u>17</u> dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	<u>17</u> dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>17</u> dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	<u>17</u> dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	_____ dbm

DATE 14 November 1963

TESTER [Signature]

SUPERVISOR [Signature]

QUALITY ASSURANCE [Signature]

GEEIA [Signature]

Sheet 4 of 4



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION GAGTransmission Path: From GAG Station to GHO Station

MC-50 Multiplex Rack No. \_\_\_\_\_

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A</u> v
	TP3	(1.0v±0.1v)	<u>N/A</u> v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>RSK</u> Int
	TP1	(1.0v ±0.1v)	<u>1.1</u> v
3.	HARMONIC GENERATOR LEVELS (15v pp min)		<u>19.3</u> v
4.	CHANNEL CARRIER SUPPLY		
	Channel 1 <sup>12</sup> 64 kc	(1.1v min)	_____ v.
	Channel 2 <sup>11</sup> 68 kc	(1.1v min)	_____ v
	Channel 3 <sup>10</sup> 72 kc	(1.1v min)	_____ v
	Channel 4 <sup>9</sup> 76 kc	(1.1v min)	_____ v
	Channel 5 <sup>8</sup> 80 kc	(1.1v min)	<u>1.2</u> v
	Channel 6 <sup>7</sup> 84 kc	(1.1v min)	<u>1.1</u> v
	Channel 7 <sup>6</sup> 88 kc	(1.1v min)	<u>1.2</u> v
	Channel 8 <sup>5</sup> 92 kc	(1.1v min)	<u>1.1</u> v
	Channel 9 <sup>4</sup> 96 kc	(1.1v min)	_____ v
	Channel 10 <sup>3</sup> 100 kc	(1.1v min)	_____ v
	Channel 11 <sup>2</sup> 104 kc	(1.1v min)	_____ v
	Channel 12 <sup>1</sup> 108 kc	(1.1v min)	_____ v
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>N/A</u> v
6.	CHANNEL CARRIER LEAK		
	Channel 1 <sup>12</sup> 64 kc	(.13 mv max)	_____ mv
	Channel 2 <sup>11</sup> 68 kc	(.13 mv max)	_____ mv
	Channel 3 <sup>10</sup> 72 kc	(.13 mv max)	_____ mv
	Channel 4 <sup>9</sup> 76 kc	(.13 mv max)	_____ mv
	Channel 5 <sup>8</sup> 80 kc	(.13 mv max)	<u>0.04</u> mv
	Channel 6 <sup>7</sup> 84 kc	(.13 mv max)	<u>0.06</u> mv
	Channel 7 <sup>6</sup> 88 kc	(.13 mv max)	<u>0.06</u> mv
	Channel 8 <sup>5</sup> 92 kc	(.13 mv max)	<u>0.02</u> mv
	Channel 9 <sup>4</sup> 96 kc	(.13 mv max)	_____ mv
	Channel 10 <sup>3</sup> 100 kc	(.13 mv max)	_____ mv
	Channel 11 <sup>2</sup> 104 kc	(.13 mv max)	_____ mv
	Channel 12 <sup>1</sup> 108 kc	(.13 mv max)	_____ mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION GAGTransmission Path: From Station GAG to Station GHO

Multiplex Rack No. \_\_\_\_\_

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1mv max)	<u>N/A</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2V</u> <del>xxx</del>
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)		

Channel 1/2	63 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
Channel 2/1	67 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
Channel 3/0	71 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
Channel 4/9	75 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
Channel 5/8	79 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 6/7	83 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 7/6	87 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 8/5	91 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 9/4	95 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
Channel 10/3	99 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
Channel 11/2	103 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv
Channel 12/1	107 kc	(7.8 mv $\pm 0.8$ mv)	_____ mv

## 10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel 1/2	60.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 2/1	64.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 3/0	68.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 4/9	72.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 5/8	76.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66</u> <del>XXX</del> db
Channel 6/7	80.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66</u> <del>XXX</del> db
Channel 7/6	84.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66</u> <del>XXX</del> db
Channel 8/5	88.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66</u> <del>XXX</del> db
Channel 9/4	92.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 10/3	96.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 11/2	100.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv
Channel 12/1	104.175 kc	(.125 mv $\pm 0.02$ mv)	_____ mv

~~-66db (0.04mv)  $\pm 1$  db~~

Sheet 2 of 4



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION GAGTransmission Path: From Station GAG TO Station GHO

Multiplex Rack No. \_\_\_\_\_

	EXPECTED	ACTUAL
II. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>N/A</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>4.9</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>N/A</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>N/A</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>7.7</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>N/A</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>15.5</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18.0</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	_____ dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	_____ dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

BRH/41

STATION GAG

Transmission Path: From Station GAG to Station GHO

Multiplex Rack No. \_\_\_\_\_

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	_____dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	_____dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	_____dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	_____dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	+7.0dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	+7.0dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	+7.0dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	+7.0dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	_____dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	_____dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	_____dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	_____dbm

DATE 9 January 1964

TESTER James J. [Signature]

SUPERVISOR Randall C. [Signature]

QUALITY ASSURANCE William R. [Signature]

GEEIA Ralph S. [Signature]

Sheet 4 of 4



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION GPE

Transmission Path: From GPE Station to GHO Station

MC-50 Multiplex Rack No. 1

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A</u> v
	TP3	(1.0v±0.1v)	<u>N/A</u> v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>RSK</u> Int
	TP1	(1.0v ±0.1v)	<u>I</u> v
3.	HARMONIC GENERATOR LEVELS (15v pp min)		<u>18</u> v
4.	CHANNEL CARRIER SUPPLY		
	Channel 1/2 64 kc	(.1v min)	<u>      </u> v.
	Channel 2// 68 kc	(.1v min)	<u>      </u> v
	Channel 3/0 72 kc	(.1v min)	<u>      </u> v
	Channel 4/9 76 kc	(.1v min)	<u>      </u> v
	Channel 5/8 80 kc	(.1v min)	<u>      </u> v
	Channel 6/7 84 kc	(.1v min)	<u>      </u> v
	Channel 7/6 88 kc	(.1v min)	<u>      </u> v
	Channel 8/5 92 kc	(.1v min)	<u>      </u> v
	Channel 9/4 96 kc	(.1v min)	<u>1.15</u> v
	Channel 10/3 100 kc	(.1v min)	<u>1.2</u> v
	Channel 11/2 104 kc	(.1v min)	<u>1.2</u> v
	Channel 12/1 108 kc	(.1v min)	<u>1.1</u> v
5.	GROUP CARRIER SUPPLY	(.2v±0.2v)	<u>N/A</u> v
6.	CHANNEL CARRIER LEAK		
	Channel 1/2 64 kc	(.13 mv max)	<u>      </u> mv
	Channel 2// 68 kc	(.13 mv max)	<u>      </u> mv
	Channel 3/0 72 kc	(.13 mv max)	<u>      </u> mv
	Channel 4/9 76 kc	(.13 mv max)	<u>      </u> mv
	Channel 5/8 80 kc	(.13 mv max)	<u>      </u> mv
	Channel 6/7 84 kc	(.13 mv max)	<u>      </u> mv
	Channel 7/6 88 kc	(.13 mv max)	<u>      </u> mv
	Channel 8/5 92 kc	(.13 mv max)	<u>      </u> mv
	Channel 9/4 96 kc	(.13 mv max)	<u>.05</u> mv
	Channel 10/3 100 kc	(.13 mv max)	<u>.05</u> mv
	Channel 11/2 104 kc	(.13 mv max)	<u>.07</u> mv
	Channel 12/1 108 kc	(.13 mv max)	<u>.07</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION GPETransmission Path: From Station GPE to Station GHOMultiplex Rack No. 1

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1mv max)	<u>N/A</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2V</u> mv
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)		
	Channel 1/2 63 kc	(7.8 mv $\pm 0.8$ mv)	<u>      </u> mv
	Channel 2/11 67 kc	(7.8 mv $\pm 0.8$ mv)	<u>      </u> mv
	Channel 3/10 71 kc	(7.8 mv $\pm 0.8$ mv)	<u>      </u> mv
	Channel 4/9 75 kc	(7.8 mv $\pm 0.8$ mv)	<u>      </u> mv
	Channel 5/8 79 kc	(7.8 mv $\pm 0.8$ mv)	<u>      </u> mv
	Channel 6/7 83 kc	(7.8 mv $\pm 0.8$ mv)	<u>      </u> mv
	Channel 7/6 87 kc	(7.8 mv $\pm 0.8$ mv)	<u>      </u> mv
	Channel 8/5 91 kc	(7.8 mv $\pm 0.8$ mv)	<u>      </u> mv
	Channel 9/4 95 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 10/3 99 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 11/2 103 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 12/1 107 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv

## 10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel 1/2	60.175 kc	(.125 mv $\pm 0.02$ mv)	<u>      </u> mv
Channel 2/11	64.175 kc	(.125 mv $\pm 0.02$ mv)	<u>      </u> mv
Channel 3/10	68.175 kc	(.125 mv $\pm 0.02$ mv)	<u>      </u> mv
Channel 4/9	72.175 kc	(.125 mv $\pm 0.02$ mv)	<u>      </u> mv
Channel 5/8	76.175 kc	(.125 mv $\pm 0.02$ mv)	<u>      </u> mv
Channel 6/7	80.175 kc	(.125 mv $\pm 0.02$ mv)	<u>      </u> mv
Channel 7/6	84.175 kc	(.125 mv $\pm 0.02$ mv)	<u>      </u> mv
Channel 8/5	88.175 kc	(.125 mv $\pm 0.02$ mv)	<u>      </u> mv
Channel 9/4	92.175 kc -66db	(.125 mv $\pm 0.02$ mv) $\pm 1$	<u>-66</u> mv
Channel 10/3	96.175 kc -66db	(.125 mv $\pm 0.02$ mv) $\pm 1$	<u>-66</u> mv
Channel 11/2	100.175 kc -66db	(.125 mv $\pm 0.02$ mv) $\pm 1$	<u>-66</u> mv
Channel 12/1	104.175 kc -66db	(.125 mv $\pm 0.02$ mv) $\pm 1$ (0.04 mv)	<u>-66</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION GPETransmission Path: From Station GPE TO Station GHOMultiplex Rack No. 1

	EXPECTED	ACTUAL
II. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>N/A</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>4.9</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>N/A</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>N/A</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>7.7</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>N/A</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>15.5</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>      </u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>      </u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>      </u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>      </u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>      </u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>      </u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>      </u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>      </u> dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

BRII/41

STATION GPE

Transmission Path: From Station GPE to Station GHO

Multiplex Rack No. 1

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	+7 dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	+7 dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	+7 dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	+7 dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	dbm

DATE 10 Jan 64

TESTER Robert Allen

SUPERVISOR George C. Vile

QUALITY ASSURANCE William R. Vile

GEEIA Ralph L. Freyer

Sheet 4 of 4



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TIDTransmission Path: From TID Station to GPA StationMC-50 Multiplex Rack No. 2 Low Group

EXPECTED

ACTUAL

## 1. MASTER OSCILLATOR LEVELS

TP1

(1.0v±0.1v)

N/A v

TP3

(1.0v±0.1v)

N/A v

## 2. SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS

Scope Pattern

(locked)

VQ Int

TP1

(1.0v ±0.1v)

1 v

## 3. HARMONIC GENERATOR LEVELS (15v pp min)

20 v

## 4. CHANNEL CARRIER SUPPLY

Channel 1	<del>XXXX</del> 108KC	(1.1v min)	<u>1.1</u> v.
Channel 2	<del>XXXX</del> 104KC	(1.1v min)	<u>1.1</u> v
Channel 3	<del>XXXX</del> 100KC	(1.1v min)	<u>1.1</u> v
Channel 4	<del>XXXX</del> 96 KC	(1.1v min)	<u>1.1</u> v
Channel 5	<del>XXXX</del> 92 KC	(1.1v min)	<u>1.1</u> v
Channel 6	<del>XXXX</del> 88 KC	(1.1v min)	<u>1.1</u> v
Channel 7	<del>XXXX</del> 84 KC	(1.1v min)	<u>1.1</u> v
Channel 8	<del>XXXX</del> 80 KC	(1.1v min)	<u>1.1</u> v
Channel 9	<del>XXXX</del> 76 KC	(1.1v min)	<u>1.1</u> v
Channel 10	<del>XXXX</del> 72 KC	(1.1v min)	<u>1.1</u> v
Channel 11	<del>XXXX</del> 68 KC	(1.1v min)	<u>1.1</u> v
Channel 12	<del>XXXX</del> 64 KC	(1.1v min)	<u>1.1</u> v

## 5. GROUP CARRIER SUPPLY (2v±0.2v)

2.0 v

## 6. CHANNEL CARRIER LEAK

Channel 1	<del>XXXX</del> 108KC	(.13 mv max)	<u>.02</u> mv
Channel 2	<del>XXXX</del> 104KC	(.13 mv max)	<u>.10</u> mv
Channel 3	<del>XXXX</del> 100KC	(.13 mv max)	<u>.11</u> mv
Channel 4	<del>XXXX</del> 96KC	(.13 mv max)	<u>.078</u> mv
Channel 5	<del>XXXX</del> 92KC	(.13 mv max)	<u>.10</u> mv
Channel 6	<del>XXXX</del> 88KC	(.13 mv max)	<u>.085</u> mv
Channel 7	<del>XXXX</del> 84KC	(.13 mv max)	<u>.04</u> mv
Channel 8	<del>XXXX</del> 80KC	(.13 mv max)	<u>.115</u> mv
Channel 9	<del>XXXX</del> 76KC	(.13 mv max)	<u>.04</u> mv
Channel 10	<del>XXXX</del> 72KC	(.13 mv max)	<u>.10</u> mv
Channel 11	<del>XXXX</del> 68KC	(.13 mv max)	<u>.11</u> mv
Channel 12	<del>XXXX</del> 64KC	(.13 mv max)	<u>.08</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TIDTransmission Path: From Station TID to Station GPAMultiplex Rack No. 2 Low Group

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1rav max)	<u>0.8</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2.0V</u> <del>XXX</del>
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)		
	Channel 1 <del>600Kc</del> 107KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 2 <del>670Kc</del> 103KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 3 <del>70Kc</del> 99KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 4 <del>75Kc</del> 95KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 5 <del>78Kc</del> 91KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 6 <del>80Kc</del> 87KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 7 <del>82Kc</del> 83KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 8 <del>85Kc</del> 79KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 9 <del>88Kc</del> 75KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 10 <del>90Kc</del> 71KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 11 <del>100Kc</del> 67KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 12 <del>102Kc</del> 63KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv

## 10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

104.175KC	Channel 1	<del>600Kc</del> 107KC	(.125 mv $\pm 0.02$ mv)	-66 db <del>XXX</del>
100.175KC	Channel 2	<del>670Kc</del> 103KC	(.125 mv $\pm 0.02$ mv)	-66 db <del>XXX</del>
96.175KC	Channel 3	<del>70Kc</del> 99KC	(.125 mv $\pm 0.02$ mv)	-66 db <del>XXX</del>
92.175KC	Channel 4	<del>75Kc</del> 95KC	(.125 mv $\pm 0.02$ mv)	-66 db <del>XXX</del>
88.175KC	Channel 5	<del>78Kc</del> 91KC	(.125 mv $\pm 0.02$ mv)	-66 db <del>XXX</del>
84.175KC	Channel 6	<del>80Kc</del> 87KC	(.125 mv $\pm 0.02$ mv)	-66 db <del>XXX</del>
80.175KC	Channel 7	<del>82Kc</del> 83KC	(.125 mv $\pm 0.02$ mv)	-66 db <del>XXX</del>
76.175KC	Channel 8	<del>85Kc</del> 79KC	(.125 mv $\pm 0.02$ mv)	-66 db <del>XXX</del>
72.175KC	Channel 9	<del>88Kc</del> 75KC	(.125 mv $\pm 0.02$ mv)	-66 db <del>XXX</del>
68.175KC	Channel 10	<del>90Kc</del> 71KC	(.125 mv $\pm 0.02$ mv)	-66 db <del>XXX</del>
64.175KC	Channel 11	<del>100Kc</del> 67KC	(.125 mv $\pm 0.02$ mv)	-66 db <del>XXX</del>
60.175KC	Channel 12	<del>102Kc</del> 63KC	(.125 mv $\pm 0.02$ mv)	-66 db <del>XXX</del>

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SPEC. CHANGED To  
-66  $\pm$  1db (.4mv)



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TIDTransmission Path: From Station TID TO Station GPAMultiplex Rack No. 2 Low Group

## EXPECTED

## ACTUAL

## 11. GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39A(V)  
Stations(13.7mv  $\pm$  0.7 mv)13.7 mv

MW503A LOS Stations

(4.9 mv  $\pm$  0.2mv)N/A mv

MRC-85 &amp; FRC-39A(V)

(27.4mv  $\pm$  1.5 mv)27.2 mv

Modulator Input Level

MRC-80 Transmitter Input Level

(-10 dbm  $\pm$  0.5 dbm)N/A dbm

MW503A Transmitter Input Level

(7.7 mv  $\pm$  0.3 mv)N/A mv

## 12. GROUP RECEIVE LEVEL

GRP IN (TP7)

MRC-85, MRC-80 &amp; FRC-39A(V)

(13.7mv  $\pm$  0.8 mv)13.0 mv

MW-503A LOS (except GPA)

(15.5 mv  $\pm$  0.9 mv)N/A mv

MW-503A LOS (GPA only)

(7.7 mv  $\pm$  0.5 mv)N/A mv

GRP OUT (TP4)

(18 mv  $\pm$  1 mv)18.0 mv

## 13. CHANNEL RECEIVE LEVELS

VF REC Test Point

Channel 1

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 2

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 3

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 4

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 5

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 6

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 7

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 8

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 9

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 10

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 11

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 12

(-31 dbm  $\pm$  1 dbm)-31.0 dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
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MC-50 MULTIPLEX TEST

BRII/41

STATION TID

Transmission Path: From Station TID to Station GPA

Multiplex Rack No. 2 Low Group

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 5	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 6	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 8	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 9	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 10	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 11	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 12	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>

DATE 25 November 1963

TESTER V. Quin

SUPERVISOR R. E. Carter

QUALITY ASSURANCE Stan Kordell

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GEEIA Ralph H. Huges



FEDERAL ELECTRIC CORPORATION  
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MC-50 MULTIPLEX TEST

STATION TIDTransmission Path: From TID Station to G PA StationMC-50 Multiplex Rack No. 2 High Group

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A</u> v
	TP3	(1.0v±0.1v)	<u>N/A</u> v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>VQ</u> Int
	TP1	(1.0v ±0.1v)	<u>1.0</u> v
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>20.0</u> v
4.	CHANNEL CARRIER SUPPLY		
	Channel 1 <del>XXXX</del> 108KC	(1.1v min)	<u>1.1</u> v.
	Channel 2 <del>XXXX</del> 104KC	(1.1v min)	<u>1.1</u> v
	Channel 3 <del>XXXX</del> 100KC	(1.1v min)	<u>1.1</u> v
	Channel 4 <del>XXXX</del> 96KC	(1.1v min)	<u>1.1</u> v
	Channel 5 <del>XXXX</del> 92KC	(1.1v min)	<u>1.1</u> v
	Channel 6 <del>XXXX</del> 88KC	(1.1v min)	<u>1.1</u> v
	Channel 7 <del>XXXX</del> 84KC	(1.1v min)	<u>1.1</u> v
	Channel 8 <del>XXXX</del> 80KC	(1.1v min)	<u>1.1</u> v
	Channel 9 <del>XXXX</del> 76KC	(1.1v min)	<u>1.1</u> v
	Channel 10 <del>XXXX</del> 72KC	(1.1v min)	<u>1.1</u> v
	Channel 11 <del>XXXX</del> 68KC	(1.1v min)	<u>1.1</u> v
	Channel 12 <del>XXXX</del> 64KC	(1.1v min)	<u>1.1</u> v
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>2.0</u> v
6.	CHANNEL CARRIER LEAK		
	Channel 1 <del>XXXX</del> 108KC	(.13 mv max)	<u>0.11</u> mv
	Channel 2 <del>XXXX</del> 104KC	(.13 mv max)	<u>0.09</u> mv
	Channel 3 <del>XXXX</del> 100KC	(.13 mv max)	<u>0.11</u> mv
	Channel 4 <del>XXXX</del> 96KC	(.13 mv max)	<u>0.08</u> mv
	Channel 5 <del>XXXX</del> 92KC	(.13 mv max)	<u>0.07</u> mv
	Channel 6 <del>XXXX</del> 88KC	(.13 mv max)	<u>0.108</u> mv
	Channel 7 <del>XXXX</del> 84KC	(.13 mv max)	<u>0.07</u> mv
	Channel 8 <del>XXXX</del> 80KC	(.13 mv max)	<u>0.10</u> mv
	Channel 9 <del>XXXX</del> 76KC	(.13 mv max)	<u>0.088</u> mv
	Channel 10 <del>XXXX</del> 72KC	(.13 mv max)	<u>0.065</u> mv
	Channel 11 <del>XXXX</del> 68KC	(.13 mv max)	<u>0.05</u> mv
	Channel 12 <del>XXXX</del> 64KC	(.13 mv max)	<u>0.045</u> mv



**FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST**

STATION TIDTransmission Path: From Station TID to Station GPAMultiplex Rack No. 2 High Group

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1mv max)	<u>N/A</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2.0V</u> mv
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)		
	Channel 1 <del>630K</del> 107KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 2 <del>670K</del> 103KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 3 <del>710K</del> 99KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 4 <del>750K</del> 96KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 5 <del>790K</del> 91KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 6 <del>830K</del> 87KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 7 <del>870K</del> 83KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 8 <del>910K</del> 77KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 9 <del>950K</del> 73KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 10 <del>990K</del> 69KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 11 <del>1030K</del> 65KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 12 <del>1070K</del> 61KC	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
10.	SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps		
104.175KC	Channel 1 <del>1600K</del> 150K	(.125 mv $\pm 0.02$ mv)	<u>-66 db</u> mv
100.175	Channel 2 <del>1640K</del> 150K	(.125 mv $\pm 0.02$ mv)	<u>-66 db</u> mv
96.175 KC	Channel 3 <del>1680K</del> 150K	(.125 mv $\pm 0.02$ mv)	<u>-66 db</u> mv
92.175 KC	Channel 4 <del>1720K</del> 150K	(.125 mv $\pm 0.02$ mv)	<u>-66 db</u> mv
88.175KC	Channel 5 <del>1760K</del> 150K	(.125 mv $\pm 0.02$ mv)	<u>-66 db</u> mv
84.175KC	Channel 6 <del>1800K</del> 150K	(.125 mv $\pm 0.02$ mv)	<u>-66 db</u> mv
80.175KC	Channel 7 <del>1840K</del> 150K	(.125 mv $\pm 0.02$ mv)	<u>-66 db</u> mv
76.175KC	Channel 8 <del>1880K</del> 150K	(.125 mv $\pm 0.02$ mv)	<u>-66 db</u> mv
72.175KC	Channel 9 <del>1920K</del> 150K	(.125 mv $\pm 0.02$ mv)	<u>-66 db</u> mv
68.175KC	Channel 10 <del>1960K</del> 150K	(.125 mv $\pm 0.02$ mv)	<u>-66 db</u> mv
64.175KC	Channel 11 <del>2000K</del> 150K	(.125 mv $\pm 0.02$ mv)	<u>-66 db</u> mv
60.175KC	Channel 12 <del>2040K</del> 150K	(.125 mv $\pm 0.02$ mv)	<u>-66 db</u> mv

SPEC CHANGED TO

-66db  $\pm$  1db (.4mv)

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FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TIDTransmission Path: From Station XXX TID TO Station T GPAMultiplex Rack No. 2 High Group

	EXPECTED	ACTUAL
11. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>13.7</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>N/A</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	27.4 <u>XXX</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>N/A</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>N/A</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>13.0</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>N/A</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18.0</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

BRH/41

STATION TID

Transmission Path: From Station TID to Station GPA

Multiplex Rack No. 2 High Group

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	+7.0 dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	+7.0 dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	+7.0 dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	+7.0 dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	+7.0 dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	+7.0 dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	+7.0 dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	+7.0 dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	+7.0 dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	+7.0 dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	+7.0 dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	+7.0 dbm

DATE 26 November 1963

TESTER [Signature]

SUPERVISOR [Signature]

QUALITY ASSURANCE [Signature]

Sheet 4 of 4

GEEIA

Ralph S. Kruger

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**FEDERAL ELECTRIC CORPORATION  
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DATA SHEET  
MC-50 MULTIPLEX TEST**

STATION TJDTransmission Path: From TJD Station to TJC Station

MC-50 Multiplex Rack No. \_\_\_\_\_

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A</u> v
	TP3	(1.0v±0.1v)	<u>N/A</u> v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	Int
	TP1	(1.0v ±0.1v)	<u>1</u> v
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>20</u> v
4.	CHANNEL CARRIER SUPPLY		
	Channel 1 64 kc	(.1v min)	<u>1.1</u> v.
	Channel 2 68 kc	(.1v min)	<u>1.1</u> v
	Channel 3 72 kc	(.1v min)	<u>1.1</u> v
	Channel 4 76 kc	(.1v min)	<u>1.1</u> v
	Channel 5 80 kc	(.1v min)	<u>1.1</u> v
	Channel 6 84 kc	(.1v min)	<u>1.1</u> v
	Channel 7 88 kc	(.1v min)	<u>1.1</u> v
	Channel 8 92 kc	(.1v min)	<u>1.1</u> v
	Channel 9 96 kc	(.1v min)	<u>1.1</u> v
	Channel 10 100 kc	(.1v min)	<u>1.1</u> v
	Channel 11 104 kc	(.1v min)	<u>1.1</u> v
	Channel 12 108 kc	(.1v min)	<u>1.1</u> v
5.	GROUP CARRIER SUPPLY	(.2v±0.2v)	<u>N/A</u> v
6.	CHANNEL CARRIER LEAK		
	Channel 1 64 kc	(.13 mv max)	<u>.09</u> mv
	Channel 2 68 kc	(.13 mv max)	<u>.125</u> mv
	Channel 3 72 kc	(.13 mv max)	<u>.03</u> mv
	Channel 4 76 kc	(.13 mv max)	<u>.03</u> mv
	Channel 5 80 kc	(.13 mv max)	<u>.10</u> mv
	Channel 6 84 kc	(.13 mv max)	<u>.12</u> mv
	Channel 7 88 kc	(.13 mv max)	<u>.125</u> mv
	Channel 8 92 kc	(.13 mv max)	<u>.05</u> mv
	Channel 9 96 kc	(.13 mv max)	<u>.115</u> mv
	Channel 10 100 kc	(.13 mv max)	<u>.11</u> mv
	Channel 11 104 kc	(.13 mv max)	<u>.02</u> mv
	Channel 12 108 kc	(.13 mv max)	<u>.07</u> mv



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MC-50 MULTIPLEX TEST

STATION 77DTransmission Path: From Station 77D to Station 77C

Multiplex Rack No. \_\_\_\_\_

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1rav max)	<u>n/a</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2</u> mv
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)		

Channel 1	63 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.6</u> mv
Channel 2	67 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 3	71 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 4	75 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 5	79 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 6	83 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 7	87 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 8	91 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 9	95 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 10	99 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 11	103 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 12	107 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv

## 10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel 1	60.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66</u> mv db
Channel 2	64.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66</u> mv db
Channel 3	68.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66</u> mv db
Channel 4	72.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66</u> mv db
Channel 5	76.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66</u> mv db
Channel 6	80.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66</u> mv db
Channel 7	84.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65</u> mv db
Channel 8	88.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66</u> mv db
Channel 9	92.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66</u> mv db
Channel 10	96.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66</u> mv db
Channel 11	100.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66</u> mv db
Channel 12	104.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66</u> mv db
		-66db(.4mV)	



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MC-50 MULTIPLEX TEST

STATION T7DTransmission Path: From Station T7D TO Station T7C

Multiplex Rack No. \_\_\_\_\_

	EXPECTED	ACTUAL
11. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>N/A</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>4.9</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>N/A</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>N/A</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>7.7</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>N/A</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>15.5</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm



**FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST**

BRH/41

STATION T7D

Transmission Path: From Station T7D to Station T7C

Multiplex Rack No. \_\_\_\_\_

**EXPECTED**

**ACTUAL**

**13. CHANNEL RECEIVE LEVELS-continued**

**Channel VF Out**

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	<u>+7</u> dbm

DATE \_\_\_\_\_

TESTER Paul J. Ayres

SUPERVISOR [Signature]

QUALITY ASSURANCE [Signature]

GEEIA Ralph S. Burger

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**FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST**

STATION T.I.D.Transmission Path: From T.I.D. Station to T.K.G. StationMC-50 Multiplex Rack No. G ROUNP # 1

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	N/A v
	TP3	(1.0v±0.1v)	N/A v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	Int
	TP1	(1.0v ±0.1v)	<u>1.05</u> v
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>25</u> v
4.	CHANNEL CARRIER SUPPLY		
	Channel 1	<del>64</del> kc 108kc (1.1v min)	<u>1.1</u> v
	Channel 2	<del>68</del> kc 104kc (1.1v min)	<u>1.1</u> v
	Channel 3	<del>72</del> kc 100kc (1.1v min)	<u>1.1</u> v
	Channel 4	<del>76</del> kc 96kc (1.1v min)	<u>1.1</u> v
	Channel 5	<del>80</del> kc 92kc (1.1v min)	<u>1.1</u> v
	Channel 6	<del>84</del> kc 88kc (1.1v min)	<u>1.2</u> v
	Channel 7	<del>88</del> kc 84kc (1.1v min)	<u>1.1</u> v
	Channel 8	<del>92</del> kc 80kc (1.1v min)	<u>1.1</u> v
	Channel 9	<del>96</del> kc 76kc (1.1v min)	<u>1.1</u> v
	Channel 10	<del>100</del> kc 72kc (1.1v min)	<u>1.1</u> v
	Channel 11	<del>104</del> kc 68kc (1.1v min)	<u>1.1</u> v
	Channel 12	<del>108</del> kc 64kc (1.1v min)	<u>1.1</u> v
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>2.0</u> v
6.	CHANNEL CARRIER LEAK		
	Channel 1	<del>64</del> kc 108kc (.13 mv max)	<u>.07</u> mv
	Channel 2	<del>68</del> kc 104kc (.13 mv max)	<u>.07</u> mv
	Channel 3	<del>72</del> kc 100kc (.13 mv max)	<u>.11</u> mv
	Channel 4	<del>76</del> kc 96kc (.13 mv max)	<u>.07</u> mv
	Channel 5	<del>80</del> kc 92kc (.13 mv max)	<u>.12</u> mv
	Channel 6	<del>84</del> kc 88kc (.13 mv max)	<u>.10</u> mv
	Channel 7	<del>88</del> kc 84kc (.13 mv max)	<u>.09</u> mv
	Channel 8	<del>92</del> kc 80kc (.13 mv max)	<u>.09</u> mv
	Channel 9	<del>96</del> kc 76kc (.13 mv max)	<u>.09</u> mv
	Channel 10	<del>100</del> kc 72kc (.13 mv max)	<u>.05</u> mv
	Channel 11	<del>104</del> kc 68kc (.13 mv max)	<u>.09</u> mv
	Channel 12	<del>108</del> kc 64kc (.13 mv max)	<u>.04</u> mv



FEDERAL ELECTRIC CORPORATION  
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MC-50 MULTIPLEX TEST

STATION T.I.D.Transmission Path: From Station T.I.D. to Station T.K.G.Multiplex Rack No. G GROUP # 1 ( 312 to 360 kc)

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1mv max)	<u>9mv</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm$ 0.2v)	<u>2 v</u> MAX
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)		
	Channel 1	62 kc 107kc (7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 2	62 kc 103 kc (7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 3	71 kc 99kc (7.8 mv $\pm$ 0.8mv)	<u>7.8</u> mv
	Channel 4	71 kc 95kc (7.8 mv $\pm$ 0.8mv)	<u>7.8</u> mv
	Channel 5	72 kc 91kc (7.8 mv $\pm$ 0.8mv)	<u>7.8</u> mv
	Channel 6	82 kc 87kc (7.8 mv $\pm$ 0.8mv)	<u>7.8</u> mv
	Channel 7	82 kc 83 kc (7.8 mv $\pm$ 0.8mv)	<u>7.8</u> mv
	Channel 8	91kc 79kc (7.8 mv $\pm$ 0.8mv)	<u>7.8</u> mv
	Channel 9	95 kc 75kc (7.8 mv $\pm$ 0.8mv)	<u>7.8</u> mv
	Channel 10	92 kc 71kc (7.8mv $\pm$ 0.8mv)	<u>7.8</u> mv
	Channel 11	102 kc 67kc (7.8 mv $\pm$ 0.8mv)	<u>7.8</u> mv
	Channel 12	102 kc 63kc (7.8mv $\pm$ 0.8mv)	<u>7.8</u> mv

## 10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

104.175kc	Channel 1	104.175 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv
100.175kc	Channel 2	100.175 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv
96.175kc	Channel 3	96.175 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv
92.175kc	Channel 4	92.175 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv
88.175kc	Channel 5	88.175 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv
84.175kc	Channel 6	84.175 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv
80.175kc	Channel 7	80.175 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv
76.175kc	Channel 8	76.175 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv
72.175kc	Channel 9	72.175 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv
68.175kc	Channel 10	68.175 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv
64.175kc	Channel 11	64.175 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv
60.175kc	Channel 12	60.175 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
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MG-50 MULTIPLEX TEST

STATION T.I.D.Transmission Path: From Station T.I.D. TO Station T.K.G.Multiplex Rack No. GROUP #1 ( 312 to 360 ko)

	EXPECTED	ACTUAL
II. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.7 mv)	<u>13.7</u> mv
Stations		
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>n/a</u> mv
MRC-85 & FRC-39A(V)	(27.4mv $\pm$ 1.5 mv)	<u>26.9</u> mv
Modulator Input Level		
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>n/a</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>n/a</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>13.6</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>n/a</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>n/a</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm



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STATION T.I.D.

Transmission Path: From Station T.I.D. to Station T.K.C.

Multiplex Rack No. GROUP # 1 (312 to 360 kc)

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	+ 7 dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	+ 7 dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	+ 7 dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	+ 7 dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	+ 7 dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	+ 7 dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	+ 7 dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	+ 7 dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	+ 7 dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	+ 7 dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	+ 7 dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	+ 7 dbm

DATE 21 Dec 1963

TESTER [Signature]

SUPERVISOR [Signature]

QUALITY ASSURANCE [Signature]

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GEEIA Ralph S. Krueger



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
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MC-50 MULTIPLEX TEST

STATION TIDTransmission Path: From TID Station to TKG StationMC-50 Multiplex Rack No. BASE GROUP (60-108KC)

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>      </u> v
	TP3	(1.0v±0.1v)	<u>      </u> v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>      </u> Int
	TP1	(1.0v ±0.1v)	<u>1.05</u> v
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>      </u> v
4.	CHANNEL CARRIER SUPPLY		
	108kc Channel 1	XXXXX (1.1v min)	<u>1.1</u> v
	104kc Channel 2	XXXXX (1.1v min)	<u>1.1</u> v
	100kc Channel 3	XXXXX (1.1v min)	<u>1.1</u> v
	96kc Channel 4	XXXXX (1.1v min)	<u>1.1</u> v
	92kc Channel 5	XXXXX (1.1v min)	<u>1.1</u> v
	88kc Channel 6	XXXXX (1.1v min)	<u>1.2</u> v
	84kc Channel 7	XXXXX (1.1v min)	<u>1.1</u> v
	80kc Channel 8	XXXXX (1.1v min)	<u>1.1</u> v
	76kc Channel 9	XXXXX (1.1v min)	<u>1.1</u> v
	72kc Channel 10	XXXXX (1.1v min)	<u>1.1</u> v
	68kc Channel 11	XXXXX (1.1v min)	<u>1.1</u> v
	64kc Channel 12	XXXXX (1.1v min)	<u>1.1</u> v
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>N/A</u> v
6.	CHANNEL CARRIER LEAK		
	108kc Channel 1	XXXXX (.13 mv max)	<u>10</u> mv
	104kc Channel 2	XXXXX (.13 mv max)	<u>08</u> mv
	100kc Channel 3	XXXXX (.13 mv max)	<u>09</u> mv
	96kc Channel 4	XXXXX (.13 mv max)	<u>03</u> mv
	92kc Channel 5	XXXXX (.13 mv max)	<u>05</u> mv
	88kc Channel 6	XXXXX (.13 mv max)	<u>09</u> mv
	84kc Channel 7	XXXXX (.13 mv max)	<u>18</u> mv
	80kc Channel 8	XXXXX (.13 mv max)	<u>09</u> mv
	76kc Channel 9	XXXXX (.13 mv max)	<u>09</u> mv
	72kc Channel 10	XXXXX (.13 mv max)	<u>05</u> mv
	68kc Channel 11	XXXXX (.13 mv max)	<u>08</u> mv
	64kc Channel 12	XXXXX (.13 mv max)	<u>05</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
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MC-50 MULTIPLEX TEST

STATION TIDTransmission Path: From Station TID to Station TKGMultiplex Rack No. BASE GROUP (60-108KC)

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1rav max)	<u>N/A</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2V</u> mv
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator. -1000 cps at -16 dbm):		
	107kc Channel 1	XXXX (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	103kc Channel 2	XXXX (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	99kc Channel 3	XXXX (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	95kc Channel 4	XXXX (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	91kc Channel 5	XXXX (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	87kc Channel 6	XXXX (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	83kc Channel 7	XXXX (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	79kc Channel 8	XXXX (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	75kc Channel 9	XXXX (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	71kc Channel 10	XXXX (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	67kc Channel 11	XXXXXX (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	63kc Channel 12	XXXXXX (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
10.	SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps		
	104.175kc Channel 1	XXXXXX (XXXXXX) (XXXXXX)	<u>-66</u> mv
	100.175kc Channel 2	XXXXXX (XXXXXX) (XXXXXX)	<u>-66</u> mv
	96.175kc Channel 3	XXXXXX (XXXXXX) (XXXXXX)	<u>-66</u> mv
	92.175kc Channel 4	XXXXXX (XXXXXX) (XXXXXX)	<u>-66</u> mv
	88.175kc Channel 5	XXXXXX (XXXXXX) (XXXXXX)	<u>-66</u> mv
	84.175kc Channel 6	XXXXXX (XXXXXX) (XXXXXX)	<u>-66</u> mv
	80.175kc Channel 7	XXXXXX (XXXXXX) (XXXXXX)	<u>-66</u> mv
	76.175kc Channel 8	XXXXXX (XXXXXX) (XXXXXX)	<u>-66</u> mv
	72.175kc Channel 9	XXXXXX (XXXXXX) (XXXXXX)	<u>-66</u> mv
	68.175kc Channel 10	XXXXXX (XXXXXX) (XXXXXX)	<u>-66</u> mv
	64.175kc Channel 11	XXXXXX (XXXXXX) (XXXXXX)	<u>-66</u> mv
	60.175kc Channel 12	XXXXXX (XXXXXX) (XXXXXX)	<u>-66</u> mv
		-66db-1db(-.4mv)	



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
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BR11/41

STATION TID

Transmission Path: From Station TID TO Station TKG

Multiplex Rack No. BASE GROUP (64-108KC)

	EXPECTED	ACTUAL
11. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>13.7</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	N/A mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>27.4</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	N/A dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>N/A</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>13.7</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>N/A</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
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MC-50 MULTIPLEX TEST

BRII/41

STATION TID

Transmission Path: From Station TID to Station TKG

Multiplex Rack No. BASE GROUP (64-108KC)

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 5	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 6	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 8	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 9	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 10	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 11	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 12	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>

DATE 8. DEC. 1963

TESTER [Signature]

SUPERVISOR [Signature]

QUALITY ASSURANCE [Signature]

GEEIA Ralph S. Kruger

Sheet 4 of 4

AFCS Carl H. Russell

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BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TICTransmission Path: From TIC Station to TID StationMC-50 Multiplex Rack No. 1

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A</u> v
	TP3	(1.0v±0.1v)	<u>N/A</u> v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>3.1</u> Int
	TP1	(1.0v ±0.1v)	<u>1.0</u> v
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>15.0</u> v
4.	CHANNEL CARRIER SUPPLY		
	Channel 1 64 kc	(1.1v min)	<u>1.1</u> v
	Channel 2 68 kc	(1.1v min)	<u>1.1</u> v
	Channel 3 72 kc	(1.1v min)	<u>1.1</u> v
	Channel 4 76 kc	(1.1v min)	<u>1.1</u> v
	Channel 5 80 kc	(1.1v min)	<u>1.1</u> v
	Channel 6 84 kc	(1.1v min)	<u>1.1</u> v
	Channel 7 88 kc	(1.1v min)	<u>1.1</u> v
	Channel 8 92 kc	(1.1v min)	<u>1.1</u> v
	Channel 9 96 kc	(1.1v min)	<u>1.1</u> v
	Channel 10 100 kc	(1.1v min)	<u>1.1</u> v
	Channel 11 104 kc	(1.1v min)	<u>1.1</u> v
	Channel 12 108 kc	(1.1v min)	<u>1.1</u> v
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>N/A</u> v
6.	CHANNEL CARRIER LEAK		
	Channel 1 64 kc	(.13 mv max)	<u>.09</u> mv
	Channel 2 68 kc	(.13 mv max)	<u>.07</u> mv
	Channel 3 72 kc	(.13 mv max)	<u>.08</u> mv
	Channel 4 76 kc	(.13 mv max)	<u>.03</u> mv
	Channel 5 80 kc	(.13 mv max)	<u>.07</u> mv
	Channel 6 84 kc	(.13 mv max)	<u>.04</u> mv
	Channel 7 88 kc	(.13 mv max)	<u>.03</u> mv
	Channel 8 92 kc	(.13 mv max)	<u>.02</u> mv
	Channel 9 96 kc	(.13 mv max)	<u>.07</u> mv
	Channel 10 100 kc	(.13 mv max)	<u>.06</u> mv
	Channel 11 104 kc	(.13 mv max)	<u>.06</u> mv
	Channel 12 108 kc	(.13 mv max)	<u>.03</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TICTransmission Path: From Station TIC to Station TIDMultiplex Rack No. 1

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1mv max)	<u>N/A</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2</u> mv
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm):		

Channel 1	63 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 2	67 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 3	71 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 4	75 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 5	79 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 6	83 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 7	87 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 8	91 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 9	95 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 10	99 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 11	103 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 12	107 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv

## 10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel 1	60.175 kc	(.125 mv $\pm 0.02$ mv)	<u>mvdb</u>
Channel 2	64.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.5 mvdb</u>
Channel 3	68.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.4 mvdb</u>
Channel 4	72.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.8 mvdb</u>
Channel 5	76.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.2 mvdb</u>
Channel 6	80.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.5 mvdb</u>
Channel 7	84.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.8 mvdb</u>
Channel 8	88.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.8 mvdb</u>
Channel 9	92.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.0 mvdb</u>
Channel 10	96.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.0 mvdb</u>
Channel 11	100.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.4 mvdb</u>
Channel 12	104.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.4 mvdb</u>

-66db  $\pm 1$  db (4mv)



FEDERAL ELECTRIC CORPORATION  
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MC-50 MULTIPLEX TEST

STATION TICTransmission Path: From Station TIC TO Station TIDMultiplex Rack No. 1

	EXPECTED	ACTUAL
11. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>N/A</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>4.9</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>N/A</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>N/A</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>7.7</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>N/A</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>15.5</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>17.5</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
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MC-50 MULTIPLEX TEST

BRH/41

STATION TIC

Transmission Path: From Station TIC to Station TID

Multiplex Rack No. 1

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm

DATE 28 November 1963

TESTER [Signature]

SUPERVISOR [Signature]

QUALITY ASSURANCE [Signature]

GEEIN [Signature]

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FEDERAL ELECTRIC CORPORATION  
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MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From TKG Station to TID StationMC-50 Multiplex Rack No. 1 Group 1

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A v</u>
	TP3	(1.0v±0.1v)	<u>N/A v</u>
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>Int</u>
	TP1	(1.0v ±0.1v)	<u>1.0 v</u>
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>28.0v pp</u>
4.	CHANNEL CARRIER SUPPLY		
	Channel 1 64 kc	(1.1v min)	<u>1.25v</u>
	Channel 2 68 kc	(1.1v min)	<u>1.45v</u>
	Channel 3 72 kc	(1.1v min)	<u>1.45v</u>
	Channel 4 76 kc	(1.1v min)	<u>1.30v</u>
	Channel 5 80 kc	(1.1v min)	<u>1.35v</u>
	Channel 6 84 kc	(1.1v min)	<u>1.35v</u>
	Channel 7 88 kc	(1.1v min)	<u>1.30v</u>
	Channel 8 92 kc	(1.1v min)	<u>1.35v</u>
	Channel 9 96 kc	(1.1v min)	<u>1.20v</u>
	Channel 10 100 kc	(1.1v min)	<u>1.30v</u>
	Channel 11 104 kc	(1.1v min)	<u>1.20v</u>
	Channel 12 108 kc	(1.1v min)	<u>1.30v</u>
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>2.0 v</u>
6.	CHANNEL CARRIER LEAK		
	Channel 1 64 kc	(.13 mv max)	<u>.020 mv</u>
	Channel 2 68 kc	(.13 mv max)	<u>.060 mv</u>
	Channel 3 72 kc	(.13 mv max)	<u>.050 mv</u>
	Channel 4 76 kc	(.13 mv max)	<u>.075 mv</u>
	Channel 5 80 kc	(.13 mv max)	<u>.050 mv</u>
	Channel 6 84 kc	(.13 mv max)	<u>.100 mv</u>
	Channel 7 88 kc	(.13 mv max)	<u>.090 mv</u>
	Channel 8 92 kc	(.13 mv max)	<u>.100 mv</u>
	Channel 9 96 kc	(.13 mv max)	<u>.040 mv</u>
	Channel 10 100 kc	(.13 mv max)	<u>.111 mv</u>
	Channel 11 104 kc	(.13 mv max)	<u>.040 mv</u>
	Channel 12 108 kc	(.13 mv max)	<u>.090 mv</u>



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From Station TKG to Station TIDMultiplex Rack No. 1 Group 1

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1rav max)	<u>0.17</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2.0</u> mv
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)		

Channel 1	63 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 2	67 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 3	71 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 4	75 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 5	79 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 6	83 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 7	87 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 8	91 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 9	95 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 10	99 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 11	103 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 12	107 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv

## 10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel 1	60.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<del>-65.8 mvdb</del>
Channel 2	64.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<del>-65.9 mvdb</del>
Channel 3	68.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<del>-65.8 mvdb</del>
Channel 4	72.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<del>-65.5 mvdb</del>
Channel 5	76.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<del>-65.5 mvdb</del>
Channel 6	80.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<del>-65.8 mvdb</del>
Channel 7	84.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<del>-65.8 mvdb</del>
Channel 8	88.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<del>-65.6 mvdb</del>
Channel 9	92.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<del>-65.5 mvdb</del>
Channel 10	96.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<del>-66.1 mvdb</del>
Channel 11	100.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<del>-66.1 mvdb</del>
Channel 12	104.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<del>-65.8 mvdb</del>

(-66db $\pm$ 1db, 0.40mv)



FEDERAL ELECTRIC CORPORATION  
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MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From Station TKG TO Station TIDMultiplex Rack No. 1 Group 1

	EXPECTED	ACTUAL
II. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>13.6</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>N/A</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>27.6</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>N/A</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>N/A</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>13.3</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>N/A</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18.2</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

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STATION TKG

Transmission Path: From Station TKG to Station TID

Multiplex Rack No. 1 Group 1

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 5	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 6	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 8	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 9	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 10	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 11	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 12	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>

DATE 3 December 1963

TESTER [Signature]

SUPERVISOR [Signature]

QUALITY ASSURANCE [Signature]

GEEIA [Signature]

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FEDERAL ELECTRIC CORPORATION  
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MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From TKG Station to TID StationMC-50 Multiplex Rack No. 2 Group 2

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A</u> v
	TP3	(1.0v±0.1v)	<u>N/A</u> v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>N/A</u> Int
	TP1	(1.0v ±0.1v)	<u>N/A</u> v
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>N/A</u> v
4.	CHANNEL CARRIER SUPPLY		
	Channel 1 64 kc	(2.1v min)	<u>N/A</u> v.
	Channel 2 68 kc	(2.1v min)	<u>N/A</u> v
	Channel 3 72 kc	(2.1v min)	<u>N/A</u> v
	Channel 4 76 kc	(2.1v min)	<u>N/A</u> v
	Channel 5 80 kc	(2.1v min)	<u>N/A</u> v
	Channel 6 84 kc	(2.1v min)	<u>N/A</u> v
	Channel 7 88 kc	(2.1v min)	<u>N/A</u> v
	Channel 8 92 kc	(2.1v min)	<u>N/A</u> v
	Channel 9 96 kc	(2.1v min)	<u>N/A</u> v
	Channel 10 100 kc	(2.1v min)	<u>N/A</u> v
	Channel 11 104 kc	(2.1v min)	<u>N/A</u> v
	Channel 12 108 kc	(2.1v min)	<u>N/A</u> v
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>N/A</u> v
6.	CHANNEL CARRIER LEAK		
	Channel 1 64 kc	(.13 mv max)	<u>.100</u> mv
	Channel 2 68 kc	(.13 mv max)	<u>.090</u> mv
	Channel 3 72 kc	(.13 mv max)	<u>.090</u> mv
	Channel 4 76 kc	(.13 mv max)	<u>.050</u> mv
	Channel 5 80 kc	(.13 mv max)	<u>.100</u> mv
	Channel 6 84 kc	(.13 mv max)	<u>.100</u> mv
	Channel 7 88 kc	(.13 mv max)	<u>.110</u> mv
	Channel 8 92 kc	(.13 mv max)	<u>.080</u> mv
	Channel 9 96 kc	(.13 mv max)	<u>.050</u> mv
	Channel 10 100 kc	(.13 mv max)	<u>.070</u> mv
	Channel 11 104 kc	(.13 mv max)	<u>.110</u> mv
	Channel 12 108 kc	(.13 mv max)	<u>.080</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From Station TKG to Station TIDMultiplex Rack No. 2 Group 2

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1mv max)	<u>N/A</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2.0</u> mv
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)		
	Channel 1 63 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 2 67 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 3 71 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 4 75 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 5 79 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 6 83 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 7 87 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 8 91 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 9 95 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 10 99 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 11 103 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 12 107 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
10.	SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps		
	Channel 1 60.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.6</u> mvdb
	Channel 2 64.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.5</u> mvdb
	Channel 3 68.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.8</u> mvdb
	Channel 4 72.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.5</u> mvdb
	Channel 5 76.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.7</u> mvdb
	Channel 6 80.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.8</u> mvdb
	Channel 7 84.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.4</u> mvdb
	Channel 8 88.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.9</u> mvdb
	Channel 9 92.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.7</u> mvdb
	Channel 10 96.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.0</u> mvdb
	Channel 11 100.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.8</u> mvdb
	Channel 12 104.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.9</u> mvdb
		(-66db $\pm 1$ db, 0.40mv)	



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STATION TKG

Transmission Path: From Station TKG TO Station TID

Multiplex Rack No. 2 Group 2

11.	GROUP TRANSMIT LEVEL	EXPECTED	ACTUAL
	MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>13.7</u> mv
	MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>N/A</u> mv
	MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>26.5</u> mv
	MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>N/A</u> dbm
	MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>N/A</u> mv
12.	GROUP RECEIVE LEVEL		
	GRP IN (TP7)		
	MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>13.3</u> mv
	MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>N/A</u> mv
	MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
	GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18.0</u> mv
13.	CHANNEL RECEIVE LEVELS		
	VF REC Test Point		
	Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
	Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
	Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
	Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
	Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
	Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
	Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
	Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
	Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
	Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
	Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
	Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm



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STATION TKG

Transmission Path: From Station TKG to Station TID

Multiplex Rack No. 2 Group 2

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm

DATE 3 December 1963

TESTER J. M. ...

SUPERVISOR J. M. ...

QUALITY ASSURANCE Joseph Malbourn

GEEIA Donald A. Malbourn

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MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From TKG Station to TID StationMC-50 Multiplex Rack No. 2 Group 3

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	N/A v
	TP3	(1.0v±0.1v)	N/A v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	N/A Int
	TP1	(1.0v ±0.1v)	N/A v
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	N/A v
4.	CHANNEL CARRIER SUPPLY		
	Channel 1 64 kc	(.1v min)	N/A v.
	Channel 2 68 kc	(.1v min)	N/A v
	Channel 3 72 kc	(.1v min)	N/A v
	Channel 4 76 kc	(.1v min)	N/A v
	Channel 5 80 kc	(.1v min)	N/A v
	Channel 6 84 kc	(.1v min)	N/A v
	Channel 7 88 kc	(.1v min)	N/A v
	Channel 8 92 kc	(.1v min)	N/A v
	Channel 9 96 kc	(.1v min)	N/A v
	Channel 10 100 kc	(.1v min)	N/A v
	Channel 11 104 kc	(.1v min)	N/A v
	Channel 12 108 kc	(.1v min)	N/A v
5.	GROUP CARRIER SUPPLY	(.2v±0.2v)	2.0 v
6.	CHANNEL CARRIER LEAK		
	Channel 1 64 kc	(.13 mv max)	.120 mv
	Channel 2 68 kc	(.13 mv max)	.060 mv
	Channel 3 72 kc	(.13 mv max)	.100 mv
	Channel 4 76 kc	(.13 mv max)	.080 mv
	Channel 5 80 kc	(.13 mv max)	.060 mv
	Channel 6 84 kc	(.13 mv max)	.080 mv
	Channel 7 88 kc	(.13 mv max)	.090 mv
	Channel 8 92 kc	(.13 mv max)	.070 mv
	Channel 9 96 kc	(.13 mv max)	.040 mv
	Channel 10 100 kc	(.13 mv max)	.050 mv
	Channel 11 104 kc	(.13 mv max)	.120 mv
	Channel 12 108 kc	(.13 mv max)	.070 mv



FEDERAL ELECTRIC CORPORATION  
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DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From Station TKG to Station TIDMultiplex Rack No. 2 Group 3

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1mv max)	<u>.52</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>N/A</u> mv
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (input to Channel Modulator -1000 cps at -16 dbm):		
	Channel 1 63 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 2 67 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 3 71 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 4 75 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 5 79 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 6 83 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 7 87 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 8 91 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 9 95 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 10 99 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 11 103 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 12 107 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv

## 10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel 1	60.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.7</u> mvdb
Channel 2	64.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.5</u> mvdb
Channel 3	68.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.6</u> mvdb
Channel 4	72.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.4</u> mvdb
Channel 5	76.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.3</u> mvdb
Channel 6	80.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.6</u> mvdb
Channel 7	84.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.6</u> mvdb
Channel 8	88.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.7</u> mvdb
Channel 9	92.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.0</u> mvdb
Channel 10	96.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.9</u> mvdb
Channel 11	100.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.1</u> mvdb
Channel 12	104.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.5</u> mvdb

(-66db  $\pm 1$ db 0.40mv)



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From Station TKG TO Station TIDMultiplex Rack No. 2 Group 3

	EXPECTED	ACTUAL
II. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>13.7</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>N/A</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>26.0</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>N/A</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>N/A</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>13.3</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>N/A</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18.0</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm



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BRII/41

STATION TKG

Transmission Path: From Station TKG to Station TID

Multiplex Rack No. 2 Group 3

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 5	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 6	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 8	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 9	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 10	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 11	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 12	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>

DATE 3 December 1963

TESTER [Signature]

SUPERVISOR [Signature]

QUALITY ASSURANCE [Signature]

GEEIA [Signature]

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BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

Transmission Path: From TKG Station to TID Station  
MC-50 Multiplex Rack No. 3 Group 4

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A v</u>
	TP3	(1.0v±0.1v)	<u>N/A v</u>
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>N/A Int</u>
	TP1	(1.0v ±0.1v)	<u>N/A v</u>
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>N/A v</u>
4.	CHANNEL CARRIER SUPPLY		
	Channel 1 64 kc	(1.1v min)	<u>N/A v.</u>
	Channel 2 68 kc	(1.1v min)	<u>N/A v</u>
	Channel 3 72 kc	(1.1v min)	<u>N/A v</u>
	Channel 4 76 kc	(1.1v min)	<u>N/A v</u>
	Channel 5 80 kc	(1.1v min)	<u>N/A v</u>
	Channel 6 84 kc	(1.1v min)	<u>N/A v</u>
	Channel 7 88 kc	(1.1v min)	<u>N/A v</u>
	Channel 8 92 kc	(1.1v min)	<u>N/A v</u>
	Channel 9 96 kc	(1.1v min)	<u>N/A v</u>
	Channel 10 100 kc	(1.1v min)	<u>N/A v</u>
	Channel 11 104 kc	(1.1v min)	<u>N/A v</u>
	Channel 12 108 kc	(1.1v min)	<u>N/A v</u>
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>2.0 v</u>
6.	CHANNEL CARRIER LEAK		
	Channel 1 64 kc	(.13 mv max)	<u>.070mv</u>
	Channel 2 68 kc	(.13 mv max)	<u>.110mv</u>
	Channel 3 72 kc	(.13 mv max)	<u>.125mv</u>
	Channel 4 76 kc	(.13 mv max)	<u>.080mv</u>
	Channel 5 80 kc	(.13 mv max)	<u>.080mv</u>
	Channel 6 84 kc	(.13 mv max)	<u>.060mv</u>
	Channel 7 88 kc	(.13 mv max)	<u>.090mv</u>
	Channel 8 92 kc	(.13 mv max)	<u>.050mv</u>
	Channel 9 96 kc	(.13 mv max)	<u>.070mv</u>
	Channel 10 100 kc	(.13 mv max)	<u>.100mv</u>
	Channel 11 104 kc	(.13 mv max)	<u>.050mv</u>
	Channel 12 108 kc	(.13 mv max)	<u>.125mv</u>



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STATION TKGTransmission Path: From Station TKG to Station TIDMultiplex Rack No. 3 Group 4

	EXPECTED	ACTUAL
7. GROUP CARRIER LEAK	(1rav max)	<u>.460mv</u>
8. SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>N/A</u> mv

9. CHANNEL TRANSMIT LEVEL AT GROUP LEVEL  
(Input to Channel Modulator -1000 cps at -16 dbm):

Channel 1	63 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 2	67 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 3	71 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 4	75 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 5	79 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 6	83 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 7	87 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 8	91 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 9	95 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 10	99 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 11	103 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 12	107 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv

10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel 1	60.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.5</u> mvab
Channel 2	64.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.6</u> mvab
Channel 3	68.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.4</u> mvab
Channel 4	72.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.7</u> mvab
Channel 5	76.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.3</u> mvab
Channel 6	80.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.7</u> mvab
Channel 7	84.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.0</u> mvab
Channel 8	88.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.1</u> mvab
Channel 9	92.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.0</u> mvab
Channel 10	96.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.6</u> mvab
Channel 11	100.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.8</u> mvab
Channel 12	104.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.7</u> mvab

(-66ab  $\pm$  1ab 0.40mv)



FEDERAL ELECTRIC CORPORATION  
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MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From Station TKG TO Station TIDMultiplex Rack No. 3 Group 4

	EXPECTED	ACTUAL
11. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>14.0</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>N/A</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>26.0</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>N/A</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>N/A</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>13.3</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>N/A</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18.0</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31.7</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

BRII/41

STATION TKG

Transmission Path: From Station TKG to Station TID

Multiplex Rack No. 3 Group 4

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm

DATE 3 December 1963

TESTER [Signature]

SUPERVISOR [Signature]

QUALITY ASSURANCE [Signature]

GEEIA [Signature]

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FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From TKG Station to TID StationMC-50 Multiplex Rack No. 3 Group 5

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	N/A v
	TP3	(1.0v±0.1v)	N/A v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	N/A Int
	TP1	(1.0v ±0.1v)	N/A v
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	N/A v
4.	CHANNEL CARRIER SUPPLY		
	Channel 1 64 kc	(.1v min)	N/A v
	Channel 2 68 kc	(.1v min)	N/A v
	Channel 3 72 kc	(.1v min)	N/A v
	Channel 4 76 kc	(.1v min)	N/A v
	Channel 5 80 kc	(.1v min)	N/A v
	Channel 6 84 kc	(.1v min)	N/A v
	Channel 7 88 kc	(.1v min)	N/A v
	Channel 8 92 kc	(.1v min)	N/A v
	Channel 9 96 kc	(.1v min)	N/A v
	Channel 10 100 kc	(.1v min)	N/A v
	Channel 11 104 kc	(.1v min)	N/A v
	Channel 12 108 kc	(.1v min)	N/A v
5.	GROUP CARRIER SUPPLY	(.2v±0.2v)	2.0 v
6.	CHANNEL CARRIER LEAK		
	Channel 1 64 kc	(.13 mv max)	.115mv
	Channel 2 68 kc	(.13 mv max)	.090mv
	Channel 3 72 kc	(.13 mv max)	.100mv
	Channel 4 76 kc	(.13 mv max)	.040mv
	Channel 5 80 kc	(.13 mv max)	.050mv
	Channel 6 84 kc	(.13 mv max)	.110mv
	Channel 7 88 kc	(.13 mv max)	.070mv
	Channel 8 92 kc	(.13 mv max)	.090mv
	Channel 9 96 kc	(.13 mv max)	.050mv
	Channel 10 100 kc	(.13 mv max)	.110mv
	Channel 11 104 kc	(.13 mv max)	.100mv
	Channel 12 108 kc	(.13 mv max)	.070mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From Station TKG to Station TIDMultiplex Rack No. 3 Group 5

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1mv max)	<u>.16 mv</u>
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2.0 mv</u>
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)		
	Channel 1 63 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
	Channel 2 67 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
	Channel 3 71 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
	Channel 4 75 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
	Channel 5 79 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
	Channel 6 83 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
	Channel 7 87 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
	Channel 8 91 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
	Channel 9 95 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
	Channel 10 99 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
	Channel 11 103 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
	Channel 12 107 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>

## 10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel 1	60.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.7 mVb</u>
Channel 2	64.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.5 mVb</u>
Channel 3	68.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.4 mVb</u>
Channel 4	72.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.6 mVb</u>
Channel 5	76.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.3 mVb</u>
Channel 6	80.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.2 mVb</u>
Channel 7	84.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.0 mVb</u>
Channel 8	88.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.0 mVb</u>
Channel 9	92.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.0 mVb</u>
Channel 10	96.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.0 mVb</u>
Channel 11	100.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.2 mVb</u>
Channel 12	104.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.0 mVb</u>

(-66db  $\pm$  1DBO.40mv)



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From Station TKG TO Station TIDMultiplex Rack No. 3 Group 5

## II. GROUP TRANSMIT LEVEL

EXPECTED

ACTUAL

MRC-85, MRC-80 &amp; FRC-39A(V)

(13.7mv  $\pm$  0.7 mv)13.7 mv

Stations

MW503A LOS Stations

(4.9 mv  $\pm$  0.2mv)

N/A mv

MRC-85 &amp; FRC-39A(V)

(27.4mv  $\pm$  1.5 mv)26.2 mv

Modulator Input Level

MRC-80 Transmitter Input Level

(-10 dbm  $\pm$  0.5 dbm)

N/A dbm

MW503A Transmitter Input Level

(7.7 mv  $\pm$  0.3 mv)N/A mv

## 12. GROUP RECEIVE LEVEL

GRP IN (TP7)

MRC-85, MRC-80 &amp; FRC-39A(V)

(13.7mv  $\pm$  0.8 mv)13.4 mv

MW-503A LOS (except GPA)

(15.5 mv  $\pm$  0.9 mv)

N/A mv

MW-503A LOS (GPA only)

(7.7 mv  $\pm$  0.5 mv)N/A mv

GRP OUT (TP4)

(18 mv  $\pm$  1 mv)18.0 mv

## 13. CHANNEL RECEIVE LEVELS

VF REC Test Point

Channel 1

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 2

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 3

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 4

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 5

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 6

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 7

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 8

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 9

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 10

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 11

(-31 dbm  $\pm$  1 dbm)-31.0 dbm

Channel 12

(-31 dbm  $\pm$  1 dbm)-31.0 dbm



FEDERAL ELECTRIC CORPORATION  
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MC-50 MULTIPLEX TEST

BRII/41

STATION TKG

Transmission Path: From Station TKG to Station TID

Multiplex Rack No. 3 Group 5

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm

DATE 3 December 1963

TESTER [Signature]

SUPERVISOR [Signature]

QUALITY ASSURANCE [Signature]

GERT [Signature]

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FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From TKG Station to TID StationMC-50 Multiplex Rack No. 4 Group 6

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A</u> v
	TP3	(1.0v±0.1v)	<u>N/A</u> v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>N/A</u> Int
	TP1	(1.0v ±0.1v)	<u>N/A</u> v
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>N/A</u> v
4.	CHANNEL CARRIER SUPPLY		
	Channel 1 64 kc	(1.1v min)	<u>N/A</u> v.
	Channel 2 68 kc	(1.1v min)	<u>N/A</u> v
	Channel 3 72 kc	(1.1v min)	<u>N/A</u> v
	Channel 4 76 kc	(1.1v min)	<u>N/A</u> v
	Channel 5 80 kc	(1.1v min)	<u>N/A</u> v
	Channel 6 84 kc	(1.1v min)	<u>N/A</u> v
	Channel 7 88 kc	(1.1v min)	<u>N/A</u> v
	Channel 8 92 kc	(1.1v min)	<u>N/A</u> v
	Channel 9 96 kc	(1.1v min)	<u>N/A</u> v
	Channel 10 100 kc	(1.1v min)	<u>N/A</u> v
	Channel 11 104 kc	(1.1v min)	<u>N/A</u> v
	Channel 12 108 kc	(1.1v min)	<u>N/A</u> v
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>2.0</u> v
6.	CHANNEL CARRIER LEAK		
	Channel 1 64 kc	(.13 mv max)	<u>.125</u> mv
	Channel 2 68 kc	(.13 mv max)	<u>.090</u> mv
	Channel 3 72 kc	(.13 mv max)	<u>.090</u> mv
	Channel 4 76 kc	(.13 mv max)	<u>.080</u> mv
	Channel 5 80 kc	(.13 mv max)	<u>.125</u> mv
	Channel 6 84 kc	(.13 mv max)	<u>.120</u> mv
	Channel 7 88 kc	(.13 mv max)	<u>.080</u> mv
	Channel 8 92 kc	(.13 mv max)	<u>.120</u> mv
	Channel 9 96 kc	(.13 mv max)	<u>.080</u> mv
	Channel 10 100 kc	(.13 mv max)	<u>.115</u> mv
	Channel 11 104 kc	(.13 mv max)	<u>.110</u> mv
	Channel 12 108 kc	(.13 mv max)	<u>.110</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
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MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From Station TKG to Station TIDMultiplex Rack No. 4 Group 6

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1rav max)	<u>19</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2.0</u> mv
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)		
	Channel 1 63 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 2 67 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 3 71 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 4 75 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 5 79 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 6 83 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 7 87 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 8 91 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 9 95 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 10 99 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 11 103 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 12 107 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv

## 10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel 1	60.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.2</u> mv db
Channel 2	64.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.5</u> mv db
Channel 3	68.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.8</u> mv db
Channel 4	72.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.6</u> mv db
Channel 5	76.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.3</u> mv db
Channel 6	80.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.7</u> mv db
Channel 7	84.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.9</u> mv db
Channel 8	88.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.3</u> mv db
Channel 9	92.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.3</u> mv db
Channel 10	96.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.3</u> mv db
Channel 11	100.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.3</u> mv db
Channel 12	104.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.0</u> mv db

(-66db  $\pm 1$  db  $\pm 0.40$  db)



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From Station TKG TO Station TIDMultiplex Rack No. 4 Group 6

	EXPECTED	ACTUAL
11. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>13.8</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>N/A</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>26.1</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>N/A</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>N/A</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>13.3</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>N/A</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18.0</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

BRII/41

STATION TKG

Transmission Path: From Station TKG to Station TID

Multiplex Rack No. 4 Group 6

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm

DATE 3 December 1963

TESTER J. J. Mackin

SUPERVISOR W. W. D. R. R.

QUALITY ASSURANCE Joseph M. Maloney

GEBIA Donald A. Holman

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FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKG

Transmission Path: From TKG Station to TAL Station

MC-50 Multiplex Rack No. 9

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A</u> v
	TP3	(1.0v±0.1v)	<u>N/A</u> v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>OM</u> Int
	TP1	(1.0v ±0.1v)	<u>1.0</u> v
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>28.0</u> v
4.	CHANNEL CARRIER SUPPLY		
	Channel 1 64 kc	(1.1v min)	<u>1.30</u> v.
	Channel 2 68 kc	(1.1v min)	<u>1.20</u> v
	Channel 3 72 kc	(1.1v min)	<u>1.15</u> v
	Channel 4 76 kc	(1.1v min)	<u>1.20</u> v
	Channel 5 80 kc	(1.1v min)	<u>1.20</u> v
	Channel 6 84 kc	(1.1v min)	<u>1.20</u> v
	Channel 7 88 kc	(1.1v min)	<u>1.20</u> v
	Channel 8 92 kc	(1.1v min)	<u>1.20</u> v
	Channel 9 96 kc	(1.1v min)	<u>1.35</u> v
	Channel 10 100 kc	(1.1v min)	<u>1.25</u> v
	Channel 11 104 kc	(1.1v min)	<u>1.30</u> v
	Channel 12 108 kc	(1.1v min)	<u>1.15</u> v
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>N/A</u> v
6.	CHANNEL CARRIER LEAK		
	Channel 1 64 kc	(.13 mv max)	<u>.060</u> mv
	Channel 2 68 kc	(.13 mv max)	<u>.110</u> mv
	Channel 3 72 kc	(.13 mv max)	<u>.070</u> mv
	Channel 4 76 kc	(.13 mv max)	<u>.090</u> mv
	Channel 5 80 kc	(.13 mv max)	<u>.100</u> mv
	Channel 6 84 kc	(.13 mv max)	<u>.060</u> mv
	Channel 7 88 kc	(.13 mv max)	<u>.100</u> mv
	Channel 8 92 kc	(.13 mv max)	<u>.100</u> mv
	Channel 9 96 kc	(.13 mv max)	<u>.060</u> mv
	Channel 10 100 kc	(.13 mv max)	<u>.100</u> mv
	Channel 11 104 kc	(.13 mv max)	<u>.090</u> mv
	Channel 12 108 kc	(.13 mv max)	<u>.090</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From Station TKG to Station TALMultiplex Rack No. #9

- |   | EXPECTED          | ACTUAL        |
|---|-------------------|---------------|
| 7. GROUP CARRIER LEAK   | (1mv max)         | <u>N/A</u> mv |
| 8. SIGNALLING SUPPLY LEVEL  | (2v. $\pm 0.2v$ ) | <u>2.0</u> mv |
| 9. CHANNEL TRANSMIT LEVEL AT GROUP LEVEL<br>(Input to Channel Modulator -1000 cps at -16 dbm) |                   |               |

Channel 1	63 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 2	67 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 3	71 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 4	75 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 5	79 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 6	83 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 7	87 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 8	91 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 9	95 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 10	99 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 11	103 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 12	107 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv

10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel 1	60.175 kc	(1.25 mv $\pm 0.02$ mv)	<u>-66.0</u> mv
Channel 2	64.175 kc	(1.25 mv $\pm 0.02$ mv)	<u>-65.8</u> mv
Channel 3	68.175 kc	(1.25 mv $\pm 0.02$ mv)	<u>-65.8</u> mv
Channel 4	72.175 kc	(1.25 mv $\pm 0.02$ mv)	<u>-66.0</u> mv
Channel 5	76.175 kc	(1.25 mv $\pm 0.02$ mv)	<u>-66.0</u> mv
Channel 6	80.175 kc	(1.25 mv $\pm 0.02$ mv)	<u>-66.0</u> mv
Channel 7	84.175 kc	(1.25 mv $\pm 0.02$ mv)	<u>-65.7</u> mv
Channel 8	88.175 kc	(1.25 mv $\pm 0.02$ mv)	<u>-65.5</u> mv
Channel 9	92.175 kc	(1.25 mv $\pm 0.02$ mv)	<u>-66.2</u> mv
Channel 10	96.175 kc	(1.25 mv $\pm 0.02$ mv)	<u>-66.0</u> mv
Channel 11	100.175 kc	(1.25 mv $\pm 0.02$ mv)	<u>-66.5</u> mv
Channel 12	104.175 kc	(1.25 mv $\pm 0.02$ mv)	<u>-66.0</u> mv

(-66.0  $\pm 1.0$  mv)



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From Station TKG TO Station TALMultiplex Rack No. #9

	EXPECTED	ACTUAL
11. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>N/A</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>4.9</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>N/A</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>N/A</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>7.9</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>N/A</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>15.5</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18.0</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

BRII/41

STATION TKG

Transmission Path: From Station TKG to Station TAL

Multiplex Rack No. #9

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	<u>7.0</u> dbm

DATE 13 December 1963

TESTER [Signature]

SUPERVISOR [Signature]

QUALITY ASSURANCE [Signature]

GEEIA [Signature]

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FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From TKG Station to TCO StationMC-50 Multiplex Rack No. 7

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A</u>
	TP3	(1.0v±0.1v)	<u>N/A</u>
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>Int</u>
	TP1	(1.0v ±0.1v)	<u>1.0v</u>
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>30 vpp</u>
4.	CHANNEL CARRIER SUPPLY		
	Channel 1 64 kc	(1.1v min)	<u>1.40v.</u>
	Channel 2 68 kc	(1.1v min)	<u>1.40v</u>
	Channel 3 72 kc	(1.1v min)	<u>1.20v</u>
	Channel 4 76 kc	(1.1v min)	<u>1.15v</u>
	Channel 5 80 kc	(1.1v min)	<u>1.20v</u>
	Channel 6 84 kc	(1.1v min)	<u>1.40v</u>
	Channel 7 88 kc	(1.1v min)	<u>1.40v</u>
	Channel 8 92 kc	(1.1v min)	<u>1.20v</u>
	Channel 9 96 kc	(1.1v min)	<u>1.40v</u>
	Channel 10 100 kc	(1.1v min)	<u>1.35v</u>
	Channel 11 104 kc	(1.1v min)	<u>1.15v</u>
	Channel 12 108 kc	(1.1v min)	<u>1.15v</u>
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>2.1 v</u>
6.	CHANNEL CARRIER LEAK		
	Channel 1 64 kc	(.13 mv max)	<u>.070 mv</u>
	Channel 2 68 kc	(.13 mv max)	<u>.080 mv</u>
	Channel 3 72 kc	(.13 mv max)	<u>.090 mv</u>
	Channel 4 76 kc	(.13 mv max)	<u>.110 mv</u>
	Channel 5 80 kc	(.13 mv max)	<u>.110 mv</u>
	Channel 6 84 kc	(.13 mv max)	<u>.080 mv</u>
	Channel 7 88 kc	(.13 mv max)	<u>.120 mv</u>
	Channel 8 92 kc	(.13 mv max)	<u>.070 mv</u>
	Channel 9 96 kc	(.13 mv max)	<u>.080 mv</u>
	Channel 10 100 kc	(.13 mv max)	<u>.110 mv</u>
	Channel 11 104 kc	(.13 mv max)	<u>.050 mv</u>
	Channel 12 108 kc	(.13 mv max)	<u>.080 mv</u>



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From Station TKG to Station TCOMultiplex Rack No. 7

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1mv max)	<u>.64</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2.05</u> mv
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)		

Channel 1	63 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 2	67 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 3	71 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 4	75 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 5	79 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 6	83 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 7	87 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 8	91 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 9	95 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 10	99 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 11	103 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 12	107 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv

## 10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel 1	60.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.5</u> v
Channel 2	64.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.0</u> mv
Channel 3	68.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.1</u> mv
Channel 4	72.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.5</u> mv
Channel 5	76.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.4</u> mv
Channel 6	80.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.7</u> mv
Channel 7	84.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.3</u> mv
Channel 8	88.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.3</u> mv
Channel 9	92.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.1</u> mv
Channel 10	96.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.8</u> mv
Channel 11	100.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-65.8</u> mv
Channel 12	104.175 kc	(.125 mv $\pm 0.02$ mv)	<u>-66.5</u> mv

(-66.0  $\pm 0.40$  mv)



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From Station TKG TO Station TCO

Multiplex Rack No. \_\_\_\_\_

	EXPECTED	ACTUAL
II. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>13.7</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>N/A</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>N/A</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>-10.0</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>N/A</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>13.1</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>N/A</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18.0</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

BRH/41

STATION TKG

Transmission Path: From Station TKG to Station TCO

Multiplex Rack No. 7

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 5	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 6	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 8	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 9	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 10	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 11	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 12	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>

DATE 9 December 1963

TESTER [Signature]

SUPERVISOR [Signature]

QUALITY ASSURANCE [Signature]

GEEIA [Signature]



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From TKG Station to TES StationMC-50 Multiplex Rack No. 8

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A v</u>
	TP3	(1.0v±0.1v)	<u>N/A v</u>
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>N/A Int</u>
	TP1	(1.0v ±0.1v)	<u>N/A v</u>
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>28.0vpp</u>
4.	CHANNEL CARRIER SUPPLY		
	Channel 1 64 kc	(1.1v min)	<u>1.30v.</u>
	Channel 2 68 kc	(1.1v min)	<u>1.20v</u>
	Channel 3 72 kc	(1.1v min)	<u>1.10v</u>
	Channel 4 76 kc	(1.1v min)	<u>1.20v</u>
	Channel 5 80 kc	(1.1v min)	<u>1.20v</u>
	Channel 6 84 kc	(1.1v min)	<u>1.20v</u>
	Channel 7 88 kc	(1.1v min)	<u>1.20v</u>
	Channel 8 92 kc	(1.1v min)	<u>1.20v</u>
	Channel 9 96 kc	(1.1v min)	<u>1.35v</u>
	Channel 10 100 kc	(1.1v min)	<u>1.25v</u>
	Channel 11 104 kc	(1.1v min)	<u>1.30v</u>
	Channel 12 108 kc	(1.1v min)	<u>1.15v</u>
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>2.0 v</u>
6.	CHANNEL CARRIER LEAK		
	Channel 1 64 kc	(.13 mv max)	<u>.060mv</u>
	Channel 2 68 kc	(.13 mv max)	<u>.050mv</u>
	Channel 3 72 kc	(.13 mv max)	<u>.070mv</u>
	Channel 4 76 kc	(.13 mv max)	<u>.060mv</u>
	Channel 5 80 kc	(.13 mv max)	<u>.100mv</u>
	Channel 6 84 kc	(.13 mv max)	<u>.090mv</u>
	Channel 7 88 kc	(.13 mv max)	<u>.120mv</u>
	Channel 8 92 kc	(.13 mv max)	<u>.050mv</u>
	Channel 9 96 kc	(.13 mv max)	<u>.040mv</u>
	Channel 10 100 kc	(.13 mv max)	<u>.050mv</u>
	Channel 11 104 kc	(.13 mv max)	<u>.090mv</u>
	Channel 12 108 kc	(.13 mv max)	<u>.100mv</u>



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From Station TKG to Station TESMultiplex Rack No. 8

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1mv max)	<u>.54 mv</u>
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2.0 mv</u>
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)		

Channel 1	63 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
Channel 2	67 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
Channel 3	71 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
Channel 4	75 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
Channel 5	79 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
Channel 6	83 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
Channel 7	87 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
Channel 8	91 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
Channel 9	95 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
Channel 10	99 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
Channel 11	103 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>
Channel 12	107 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8 mv</u>

## 10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel 1	60.175 kc	(.125 mv $\pm 0.02$ mv)	<u>66.1 mv</u>
Channel 2	64.175 kc	(.125 mv $\pm 0.02$ mv)	<u>66.1 mv</u>
Channel 3	68.175 kc	(.125 mv $\pm 0.02$ mv)	<u>66.1 mv</u>
Channel 4	72.175 kc	(.125 mv $\pm 0.02$ mv)	<u>66.1 mv</u>
Channel 5	76.175 kc	(.125 mv $\pm 0.02$ mv)	<u>66.1 mv</u>
Channel 6	80.175 kc	(.125 mv $\pm 0.02$ mv)	<u>66.1 mv</u>
Channel 7	84.175 kc	(.125 mv $\pm 0.02$ mv)	<u>66.1 mv</u>
Channel 8	88.175 kc	(.125 mv $\pm 0.02$ mv)	<u>66.1 mv</u>
Channel 9	92.175 kc	(.125 mv $\pm 0.02$ mv)	<u>66.1 mv</u>
Channel 10	96.175 kc	(.125 mv $\pm 0.02$ mv)	<u>66.1 mv</u>
Channel 11	100.175 kc	(.125 mv $\pm 0.02$ mv)	<u>66.1 mv</u>
Channel 12	104.175 kc	(.125 mv $\pm 0.02$ mv)	<u>66.1 mv</u>

66.1 mv  $\pm 0.40$  mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

BR11/41

STATION TKG

Transmission Path: From Station TKG TO Station TEB

Multiplex Rack No. 8

	EXPECTED	ACTUAL
II. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>13.7</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>N/A</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>N/A</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>-10.0</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>N/A</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>14.0</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>N/A</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18.0</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

BRH/41

STATION TKG  
TKG

Transmission Path: From Station TKG to Station TES

Multiplex Rack No. 8 TKG TES

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 5	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 6	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 8	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 9	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 10	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 11	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>
Channel 12	(+7 dbm $\pm$ 0.5 db)	<u>7.0 dbm</u>

DATE 15 December 1963

TESTER [Signature]

SUPERVISOR [Signature]

QUALITY ASSURANCE [Signature]

Sheet 4 of 4

GEEIA [Signature]



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From TKG Station to TKA StationMC-50 Multiplex Rack No. 8-9

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A</u> v
	TP3	(1.0v±0.1v)	<u>N/A</u> v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>OK</u> Int
	TP1	(1.0v ±0.1v)	<u>1.0</u> v
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>20.0</u> vpp
4.	CHANNEL CARRIER SUPPLY		
	Channel 1	64 kc 108 (1.1v min)	<u>1.15</u> v
	Channel 2	68 kc 104 (1.1v min)	<u>1.15</u> v
	Channel 3	72 kc 100 (1.1v min)	<u>1.15</u> v
	Channel 4	76 kc 96 (1.1v min)	<u>1.15</u> v
	Channel 5	80 kc 92 (1.1v min)	<u>1.15</u> v
	Channel 6	84 kc 88 (1.1v min)	<u>1.20</u> v
	Channel 7	88 kc 84 (1.1v min)	<u>1.15</u> v
	Channel 8	92 kc 80 (1.1v min)	<u>1.15</u> v
	Channel 9	96 kc 76 (1.1v min)	<u>1.15</u> v
	Channel 10	100 kc 72 (1.1v min)	<u>1.15</u> v
	Channel 11	104 kc 68 (1.1v min)	<u>1.15</u> v
	Channel 12	108 kc 64 (1.1v min)	<u>1.15</u> v
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>N/A</u> v
6.	CHANNEL CARRIER LEAK		
	Channel 1	64 kc 108 (.13 mv max)	<u>0.10</u> mv
	Channel 2	68 kc 104 (.13 mv max)	<u>0.05</u> mv
	Channel 3	72 kc 100 (.13 mv max)	<u>0.05</u> mv
	Channel 4	76 kc 96 (.13 mv max)	<u>0.05</u> mv
	Channel 5	80 kc 92 (.13 mv max)	<u>0.05</u> mv
	Channel 6	84 kc 88 (.13 mv max)	<u>0.05</u> mv
	Channel 7	88 kc 84 (.13 mv max)	<u>0.05</u> mv
	Channel 8	92 kc 80 (.13 mv max)	<u>0.11</u> mv
	Channel 9	96 kc 76 (.13 mv max)	<u>0.05</u> mv
	Channel 10	100 kc 72 (.13 mv max)	<u>0.05</u> mv
	Channel 11	104 kc 68 (.13 mv max)	<u>0.07</u> mv
	Channel 12	108 kc 64 (.13 mv max)	<u>0.10</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From Station TKG to Station TKAMultiplex Rack No. 9

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1mv max)	<u>N/A</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2.0</u> mv
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input. to Channel Modulator -1000 cps at -16 dbm)		

Channel 1	63 kc 07	(7.8 mv $\pm 0.8$ mv)	<u>7.80</u> mv
Channel 2	67 kc 03	(7.8 mv $\pm 0.8$ mv)	<u>7.80</u> mv
Channel 3	71 kc 99	(7.8 mv $\pm 0.8$ mv)	<u>7.80</u> mv
Channel 4	75 kc 95	(7.8 mv $\pm 0.8$ mv)	<u>7.80</u> mv
Channel 5	79 kc 91	(7.8 mv $\pm 0.8$ mv)	<u>7.80</u> mv
Channel 6	83 kc 87	(7.8 mv $\pm 0.8$ mv)	<u>7.80</u> mv
Channel 7	87 kc 83	(7.8 mv $\pm 0.8$ mv)	<u>7.80</u> mv
Channel 8	91 kc 79	(7.8 mv $\pm 0.8$ mv)	<u>7.80</u> mv
Channel 9	95 kc 75	(7.8 mv $\pm 0.8$ mv)	<u>7.80</u> mv
Channel 10	99 kc 71	(7.8 mv $\pm 0.8$ mv)	<u>7.80</u> mv
Channel 11	103 kc 67	(7.8 mv $\pm 0.8$ mv)	<u>7.80</u> mv
Channel 12	107 kc 63	(7.8 mv $\pm 0.8$ mv)	<u>7.80</u> mv

## 10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel 1	168.175 kc	( <del>6.25</del> $\pm 0.04$ ) $\pm 1.00$ mv	<u>.039</u> mv
Channel 2	169.175 kc	( <del>6.25</del> $\pm 0.04$ ) $\pm 1.00$ mv	<u>.039</u> mv
Channel 3	170.175 kc	( <del>6.25</del> $\pm 0.04$ ) $\pm 1.00$ mv	<u>.039</u> mv
Channel 4	171.175 kc	( <del>6.25</del> $\pm 0.04$ ) $\pm 1.00$ mv	<u>.039</u> mv
Channel 5	172.175 kc	( <del>6.25</del> $\pm 0.04$ ) $\pm 1.00$ mv	<u>.039</u> mv
Channel 6	173.175 kc	( <del>6.25</del> $\pm 0.04$ ) $\pm 1.00$ mv	<u>.039</u> mv
Channel 7	174.175 kc	( <del>6.25</del> $\pm 0.04$ ) $\pm 1.00$ mv	<u>.039</u> mv
Channel 8	175.175 kc	( <del>6.25</del> $\pm 0.04$ ) $\pm 1.00$ mv	<u>.039</u> mv
Channel 9	176.175 kc	( <del>6.25</del> $\pm 0.04$ ) $\pm 1.00$ mv	<u>.039</u> mv
Channel 10	177.175 kc	( <del>6.25</del> $\pm 0.04$ ) $\pm 1.00$ mv	<u>.039</u> mv
Channel 11	178.175 kc	( <del>6.25</del> $\pm 0.04$ ) $\pm 1.00$ mv	<u>.039</u> mv
Channel 12	179.175 kc	( <del>6.25</del> $\pm 0.04$ ) $\pm 1.00$ mv	<u>.039</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKGTransmission Path: From Station TKG TO Station TKAMultiplex Rack No. 9

	EXPECTED	ACTUAL
II. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>N/A</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>4.90</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>N/A</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>N/A</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>7.70</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>N/A</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>14.8</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18.0</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31.2</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31.2</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31.2</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31.2</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31.3</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31.3</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>-31.2</u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

BRII/41

STATION TKG

Transmission Path: From Station TKG to Station TKR

Multiplex Rack No. 9

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	7.00 dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	7.00 dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	7.00 dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	7.00 dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	7.00 dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	7.00 dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	7.00 dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	7.00 dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	7.00 dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	7.00 dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	7.00 dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	7.00 dbm

DATE Oct 21 1963

TESTER W. Maslin

SUPERVISOR William L. Rudyard

QUALITY ASSURANCE Joseph M. Maloney

GEEIA

Sheet 4 of 4

Ralph S. Kruger

2-108



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TALTransmission Path: From TAL Station to TKG StationMC-50 Multiplex Rack No. ONE

EXPECTED

ACTUAL

## 1. MASTER OSCILLATOR LEVELS

TP1	(1.0v±0.1v)	<u>N/A</u> v
TP3	(1.0v±0.1v)	<u>N/A</u> v

## 2. SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS

Scope Pattern	(locked)	RCG Int
TP1	(1.0v ±0.1v)	<u>1.05</u> v

## 3. HARMONIC GENERATOR LEVELS (15v pp min)

21 v

## 4. CHANNEL CARRIER SUPPLY

Channel 1	<del>64 kc</del> 108 kc	(1.1v min)	<u>1.2</u> v.
Channel 2	<del>68 kc</del> 104 kc	(1.1v min)	<u>1.2</u> v
Channel 3	<del>72 kc</del> 100 kc	(1.1v min)	<u>1.3</u> v
Channel 4	<del>76 kc</del> 96 kc	(1.1v min)	<u>1.4</u> v
Channel 5	<del>80 kc</del> 92 kc	(1.1v min)	<u>1.3</u> v
Channel 6	<del>84 kc</del> 88 kc	(1.1v min)	<u>1.6</u> v
Channel 7	<del>88 kc</del> 84 kc	(1.1v min)	<u>1.3</u> v
Channel 8	<del>92 kc</del> 80 kc	(1.1v min)	<u>1.3</u> v
Channel 9	<del>96 kc</del> 76 kc	(1.1v min)	<u>1.2</u> v
Channel 10	<del>100 kc</del> 72 kc	(1.1v min)	<u>1.2</u> v
Channel 11	<del>104 kc</del> 68 kc	(1.1v min)	<u>1.2</u> v
Channel 12	<del>108 kc</del> 64 kc	(1.1v min)	<u>1.2</u> v

## 5. GROUP CARRIER SUPPLY (2v±0.2v)

N/A v

## 6. CHANNEL CARRIER LEAK

Channel 1	<del>64 kc</del> 108 kc	(.13 mv max)	<u>.05</u> mv
Channel 2	<del>68 kc</del> 104 kc	(.13 mv max)	<u>.07</u> mv
Channel 3	<del>72 kc</del> 100 kc	(.13 mv max)	<u>.12</u> mv
Channel 4	<del>76 kc</del> 96 kc	(.13 mv max)	<u>.1</u> mv
Channel 5	<del>80 kc</del> 92 kc	(.13 mv max)	<u>.005</u> mv
Channel 6	<del>84 kc</del> 88 kc	(.13 mv max)	<u>.1</u> mv
Channel 7	<del>88 kc</del> 84 kc	(.13 mv max)	<u>.07</u> mv
Channel 8	<del>92 kc</del> 80 kc	(.13 mv max)	<u>.065</u> mv
Channel 9	<del>96 kc</del> 76 kc	(.13 mv max)	<u>.04</u> mv
Channel 10	<del>100 kc</del> 72 kc	(.13 mv max)	<u>.1</u> mv
Channel 11	<del>104 kc</del> 68 kc	(.13 mv max)	<u>.09</u> mv
Channel 12	<del>108 kc</del> 64 kc	(.13 mv max)	<u>.09</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TALTransmission Path: From Station TAL to Station TKG

Multiplex Rack No. \_\_\_\_\_

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1rav max)	<u>N/A</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2.05</u> mv
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input to Channel Modulator -1000 cps at -16 dbm)		
	Channel 1	63-kc D7 kc (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 2	67-kc 103 kc (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 3	71-kc 99 kc (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 4	75-kc 95 kc (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 5	79-kc 91 kc (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 6	83-kc 87 kc (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 7	87-kc 83kc (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 8	91-kc 79 kc (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 9	95-kc 75 kc (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 10	99-kc 71 kc (7.8mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 11	103-kc 67 kc (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 12	107-kc 6 kc (7.8mv $\pm 0.8$ mv)	<u>7.8</u> mv

## 10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

Channel 1	60-175 kc 104.175	25 mv $\pm 0.02$ mv)	<u>-66</u> mv
Channel 2	64-175 kc 100.175	25 mv $\pm 0.02$ mv)	<u>-66</u> mv
Channel 3	68-175 kc 96.175	25 mv $\pm 0.02$ mv)	<u>-66</u> mv
Channel 4	72-175 kc 92.175	25 mv $\pm 0.02$ mv)	<u>-66</u> mv
Channel 5	76-175 kc 88.175	25 mv $\pm 0.02$ mv)	<u>-66</u> mv
Channel 6	80-175 kc 84.175	25 mv $\pm 0.02$ mv)	<u>-66</u> mv
Channel 7	84-175 kc 80.175	25 mv $\pm 0.02$ mv)	<u>-66</u> mv
Channel 8	88-175 kc 76.175	25 mv $\pm 0.02$ mv)	<u>-66</u> mv
Channel 9	92-175 kc 72.175	25 mv $\pm 0.02$ mv)	<u>-66</u> mv
Channel 10	96-175 kc 68.175	25 mv $\pm 0.02$ mv)	<u>-66</u> mv
Channel 11	100-175 kc 64.175	25 mv $\pm 0.02$ mv)	<u>-66</u> mv
Channel 12	104-175 kc 60.175	25 mv $\pm 0.02$ mv)	<u>-66</u> mv

Sheet 2 of 4

(ALL THE ABOVE READINGS CHANGED  
TO -66DB (0.4MV)  $\pm 1$ DBERRATA SHEET DATED  
10/1/63 D.M



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TALTransmission Path: From Station TAL TO Station TKGMultiplex Rack No. ONE

	EXPECTED	ACTUAL
11. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>N/A</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>N/A</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>4.9</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>N/A</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>7.7</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>N/A</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>15.5</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

BRH/41

STATION TAL

Transmission Path: From Station TAL to Station TKG

Multiplex Rack No. ONE

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	<u>7</u> dbm

DATE 13 DECEMBER, 1963

TESTER [Signature]

SUPERVISOR [Signature]

QUALITY ASSURANCE [Signature]

Sheet 4 of 4

GEEIA [Signature]



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TCOTransmission Path: From TCO Station to TAG StationMC-50 Multiplex Rack No. ONE

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A</u> v
	TP3	(1.0v±0.1v)	<u>N/A</u> v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>KNM</u> Int
	TP1	(1.0v ±0.1v)	<u>.95</u> v
			<u>20</u>
3.	HARMONIC GENERATOR LEVELS (15v pp min)		<u>v</u>
4.	CHANNEL CARRIER SUPPLY		
	Channel 1 64 kc	(.1v min)	<u>.1</u> v
	Channel 2 68 kc	(.1v min)	<u>.1</u> v
	Channel 3 72 kc	(.1v min)	<u>.1</u> v
	Channel 4 76 kc	(.1v min)	<u>.1</u> v
	Channel 5 80 kc	(.1v min)	<u>.1</u> v
	Channel 6 84 kc	(.1v min)	<u>.1</u> v
	Channel 7 88 kc	(.1v min)	<u>.1</u> v
	Channel 8 92 kc	(.1v min)	<u>.1</u> v
	Channel 9 96 kc	(.1v min)	<u>.1</u> v
	Channel 10 100 kc	(.1v min)	<u>.1</u> v
	Channel 11 104 kc	(.1v min)	<u>.1</u> v
	Channel 12 108 kc	(.1v min)	<u>.1</u> v
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>N/A</u> v
6.	CHANNEL CARRIER LEAK		
	Channel 1 64 kc	(.13 mv max)	<u>.015</u> mv
	Channel 2 68 kc	(.13 mv max)	<u>.062</u> mv
	Channel 3 72 kc	(.13 mv max)	<u>.02</u> mv
	Channel 4 76 kc	(.13 mv max)	<u>.121</u> mv
	Channel 5 80 kc	(.13 mv max)	<u>.058</u> mv
	Channel 6 84 kc	(.13 mv max)	<u>.118</u> mv
	Channel 7 88 kc	(.13 mv max)	<u>.098</u> mv
	Channel 8 92 kc	(.13 mv max)	<u>.08</u> mv
	Channel 9 96 kc	(.13 mv max)	<u>.06</u> mv
	Channel 10 100 kc	(.13 mv max)	<u>.12</u> mv
	Channel 11 104 kc	(.13 mv max)	<u>.095</u> mv
	Channel 12 108 kc	(.13 mv max)	<u>.075</u> mv



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STATION TCOTransmission Path: From Station TCO to Station TAKMultiplex Rack No. ONE

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1rav max)	<u>N/A</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2 V</u> mv
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input. to Channel Modulator -1000 cps at -16 dbm)		
	Channel 1 63 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 2 67 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 3 71 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 4 75 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 5 79 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 6 83 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 7 87 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 8 91 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 9 95 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 10 99 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 11 103 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 12 107 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
10.	SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps		
		-66db * 1db (.4MV)	
	Channel 1 60.175 kc	<del>xxxxxxx</del>	<u>-66</u> <del>xxx</del> db
	Channel 2 64.175 kc	<del>xxxxxxx</del>	<u>-66</u> <del>xxx</del> db
	Channel 3 68.175 kc	<del>xxxxxxx</del>	<u>-66</u> <del>xxx</del> db
	Channel 4 72.175 kc	<del>xxxxxxx</del>	<u>-66</u> <del>xxx</del> db
	Channel 5 76.175 kc	<del>xxxxxxx</del>	<u>-66</u> <del>xxx</del> db
	Channel 6 80.175 kc	<del>xxxxxxx</del>	<u>-66</u> <del>xxx</del> db
	Channel 7 84.175 kc	<del>xxxxxxx</del>	<u>-66</u> <del>xxx</del> db
	Channel 8 88.175 kc	<del>xxxxxxx</del>	<u>-66</u> <del>xxx</del> db
	Channel 9 92.175 kc	<del>xxxxxxx</del>	<u>-66</u> <del>xxx</del> db
	Channel 10 96.175 kc	<del>xxxxxxx</del>	<u>-66</u> <del>xxx</del> db
	Channel 11 100.175 kc	<del>xxxxxxx</del>	<u>-66</u> <del>xxx</del> db
	Channel 12 104.175 kc	<del>xxxxxxx</del>	<u>-66</u> <del>xxx</del> db



FEDERAL ELECTRIC CORPORATION  
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MC-50 MULTIPLEX TEST

STATION TCOTransmission Path: From Station TCO TO Station TKGMultiplex Rack No. ONE

	EXPECTED	ACTUAL
II. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>13.7</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>N/A</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>N/A</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>-10.5</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>N/A</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>13.7</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>N/A</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>-31</u> dbm



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STATION TCO

Transmission Path: From Station TCO to Station TKG

Multiplex Rack No. ONE

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 5	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 6	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 8	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 9	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 10	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 11	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>
Channel 12	(+7 dbm $\pm$ 0.5 db)	<u>+7 dbm</u>

DATE 10 DEC. 1963

TESTER [Signature]

SUPERVISOR A. Prosser

QUALITY ASSURANCE [Signature]

GEEIA Ralph L. Krueger

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MC-50 MULTIPLEX TEST

STATION TESTransmission Path: From TES Station to TKG StationMC-50 Multiplex Rack No. ONE

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A</u> v
	TP3	(1.0v±0.1v)	<u>N/A</u> v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>RCL</u> Int
	TP1	(1.0v ±0.1v)	<u>1.0</u> v
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>23.0</u> v
4.	CHANNEL CARRIER SUPPLY		
	Channel 1	<del>XXXX</del> 108KC (1.1v min)	<u>1.12</u> v.
	Channel 2	<del>XXXX</del> 104KC (1.1v min)	<u>1.14</u> v
	Channel 3	<del>XXXX</del> 100KC (1.1v min)	<u>1.2</u> v
	Channel 4	<del>XXXX</del> 96KC (1.1v min)	<u>1.15</u> v
	Channel 5	<del>XXXX</del> 92KC (1.1v min)	<u>1.14</u> v
	Channel 6	<del>XXXX</del> 88KC (1.1v min)	<u>1.17</u> v
	Channel 7	<del>XXXX</del> 84KC (1.1v min)	<u>1.19</u> v
	Channel 8	<del>XXXX</del> 80KC (1.1v min)	<u>1.13</u> v
	Channel 9	<del>XXXX</del> 76KC (1.1v min)	<u>1.12</u> v
	Channel 10	<del>XXXX</del> 72KC (1.1v min)	<u>1.13</u> v
	Channel 11	<del>XXXX</del> 68KC (1.1v min)	<u>1.14</u> v
	Channel 12	<del>XXXX</del> 64KC (1.1v min)	<u>1.2</u> v
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>1.9</u> v
6.	CHANNEL CARRIER LEAK		
	Channel 1	<del>XXXX</del> 108KC (.13 mv max)	<u>.07</u> mv
	Channel 2	<del>XXXX</del> 104KC (.13 mv max)	<u>.10</u> mv
	Channel 3	<del>XXXX</del> 100KC (.13 mv max)	<u>.01</u> mv
	Channel 4	<del>XXXX</del> 96KC (.13 mv max)	<u>.06</u> mv
	Channel 5	<del>XXXX</del> 92KC (.13 mv max)	<u>.04</u> mv
	Channel 6	<del>XXXX</del> 88KC (.13 mv max)	<u>.03</u> mv
	Channel 7	<del>XXXX</del> 84KC (.13 mv max)	<u>.06</u> mv
	Channel 8	<del>XXXX</del> 80KC (.13 mv max)	<u>.08</u> mv
	Channel 9	<del>XXXX</del> 76KC (.13 mv max)	<u>.06</u> mv
	Channel 10	<del>XXXX</del> 72KC (.13 mv max)	<u>.05</u> mv
	Channel 11	<del>XXXX</del> 68KC (.13 mv max)	<u>.04</u> mv
	Channel 12	<del>XXXX</del> 64KC (.13 mv max)	<u>.07</u> mv



Transmission Path: From Station TES to Station TKG

Multiplex Rack No. ONE

ACTUAL

- |    |   |                   |                            |
|----|---|-------------------|----------------------------|
| 7. | GROUP CARRIER LEAK  | (1rav max)        | <u>.98</u> mv              |
| 8. | SIGNALLING SUPPLY LEVEL   | (2v. $\pm 0.2v$ ) | <u>2.0V</u> <del>XXX</del> |
| 9. | CHANNEL TRANSMIT LEVEL AT GROUP LEVEL<br>(Input. to Channel Modulator -1000 cps at -16 dbm) |                   |                            |

Channel 1	<del>XXXXX</del> 107KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 2	<del>XXXXX</del> 103KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 3	<del>XXXXX</del> 99KC	(7.8 mv $\pm$ 0.8mv)	<u>7.8</u> mv
Channel 4	<del>XXXXX</del> 95KC	(7.8 mv $\pm$ 0.8mv)	<u>7.8</u> mv
Channel 5	<del>XXXXX</del> 91KC	(7.8 mv $\pm$ 0.8mv)	<u>7.8</u> mv
Channel 6	<del>XXXXX</del> 87KC	(7.8 mv $\pm$ 0.8mv)	<u>7.8</u> mv
Channel 7	<del>XXXXX</del> 83KC	(7.8 mv $\pm$ 0.8mv)	<u>7.8</u> mv
Channel 8	<del>XXXXX</del> 79KC	(7.8 mv $\pm$ 0.8mv)	<u>7.8</u> mv
Channel 9	<del>XXXXX</del> 75KC	(7.8 mv $\pm$ 0.8mv)	<u>7.8</u> mv
Channel 10	<del>XXXXX</del> 71KC	(7.8mv $\pm$ 0.8mv)	<u>7.8</u> mv
Channel 11	<del>XXXXX</del> 67KC	(7.8 mv $\pm$ 0.8mv)	<u>7.8</u> mv
Channel 12	<del>XXXXX</del> 63KC	(7.8mv $\pm$ 0.8mv)	<u>7.8</u> mv

10.   SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

104.175KC	Channel 1	6000000000	(00250000000000000000)	-66 db mv
100.175KC	Channel 2	6400000000	(00250000000000000000)	-66 db mv
96.175KC	Channel 3	6800000000	(00250000000000000000)	-66 db mv
92.175KC	Channel 4	7200000000	(00250000000000000000)	-66 db mv
88.175KC	Channel 5	7600000000	(00250000000000000000)	-66 db mv
84.175KC	Channel 6	8000000000	(00250000000000000000)	-66 db mv
80.175KC	Channel 7	8400000000	(00250000000000000000)	-66 db mv
76.175KC	Channel 8	8800000000	(00250000000000000000)	-66 db mv
72.175KC	Channel 9	9200000000	(00250000000000000000)	-66 db mv
68.175KC	Channel 10	9600000000	(00250000000000000000)	-66 db mv
64.175KC	Channel 11	1000000000	(00250000000000000000)	-66 db mv
60.175KC	Channel 12	1040000000	(00250000000000000000)	-66 db mv
				-66db + 1db (0.4mv)



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STATION TESTransmission Path: From Station TES TO Station TKGMultiplex Rack No. ONE

	EXPECTED	ACTUAL
11. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>13.7</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>N/A</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>N/A</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>-10.0</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>N/A</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>13.7</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>N/A</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18.0</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm



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STATION TES

Transmission Path: From Station TES to Station TKG

Multiplex Rack No. ONE

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	<u>+7.0</u> dbm

DATE 15 December 1963

TESTER W. P. Smith

SUPERVISOR H. Calhoun

QUALITY ASSURANCE Stanley

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GEETA Ralph D. Bruger



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MC-50 MULTIPLEX TEST

STATION TKRTransmission Path: From TKR Station to TKG StationMC-50 Multiplex Rack No. ONE

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	N/A v
	TP3	(1.0v±0.1v)	N/A v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	Int
	TP1	(1.0v ±0.1v)	<u>1.0</u> v
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>      </u> v
4.	CHANNEL CARRIER SUPPLY		
	Channel 1	<del>XXXX</del> 108 KC (1.1v min)	<u>1.18</u> v.
	Channel 2	<del>XXXX</del> 104 KC (1.1v min)	<u>1.2</u> v
	Channel 3	<del>XXXX</del> 100 KC (1.1v min)	<u>1.15</u> v
	Channel 4	<del>XXXX</del> 96 KC (1.1v min)	<u>1.19</u> v
	Channel 5	<del>XXXX</del> 92 KC (1.1v min)	<u>1.22</u> v
	Channel 6	<del>XXXX</del> 88 KC (1.1v min)	<u>1.2</u> v
	Channel 7	<del>XXXX</del> 84 KC (1.1v min)	<u>1.2</u> v
	Channel 8	<del>XXXX</del> 80 KC (1.1v min)	<u>1.2</u> v
	Channel 9	<del>XXXX</del> 76 KC (1.1v min)	<u>1.2</u> v
	Channel 10	<del>XXXX</del> 72 KC (1.1v min)	<u>1.2</u> v
	Channel 11	<del>XXXX</del> 68 KC (1.1v min)	<u>1.18</u> v
	Channel 12	<del>XXXX</del> 64 KC (1.1v min)	<u>1.12</u> v
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	N/A v
6.	CHANNEL CARRIER LEAK		
	Channel 1	<del>XXXX</del> 108 KC (.13 mv max)	<u>.05</u> mv
	Channel 2	<del>XXXX</del> 104 KC (.13 mv max)	<u>.055</u> mv
	Channel 3	<del>XXXX</del> 100 KC (.13 mv max)	<u>.075</u> mv
	Channel 4	<del>XXXX</del> 96 KC (.13 mv max)	<u>.06</u> mv
	Channel 5	<del>XXXX</del> 92 KC (.13 mv max)	<u>.05</u> mv
	Channel 6	<del>XXXX</del> 88 KC (.13 mv max)	<u>.025</u> mv
	Channel 7	<del>XXXX</del> 84 KC (.13 mv max)	<u>.04</u> mv
	Channel 8	<del>XXXX</del> 80 KC (.13 mv max)	<u>.025</u> mv
	Channel 9	<del>XXXX</del> 76 KC (.13 mv max)	<u>.032</u> mv
	Channel 10	<del>XXXX</del> 72 KC (.13 mv max)	<u>.06</u> mv
	Channel 11	<del>XXXX</del> 68 KC (.13 mv max)	<u>.048</u> mv
	Channel 12	<del>XXXX</del> 64 KC (.13 mv max)	<u>.10</u> mv



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STATION TKRTransmission Path: From Station TKR to Station TKGMultiplex Rack No. ONE

		EXPECTED	ACTUAL
7.	GROUP CARRIER LEAK	(1mv max)	<u>N/A</u> mv
8.	SIGNALLING SUPPLY LEVEL	(2v. $\pm 0.2v$ )	<u>2.0</u> Vv
9.	CHANNEL TRANSMIT LEVEL AT GROUP LEVEL (Input. to Channel Modulator -1000 cps at -16 dbm)		
	Channel 1	<del>63 KHz</del> 107 KC (7.8 mv $\pm 0.8$ mv)	<u>7.7</u> mv
	Channel 2	<del>67 KHz</del> 103 KC (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 3	<del>71 KHz</del> 99 KC (7.8 mv $\pm 0.8$ mv)	<u>7.7</u> mv
	Channel 4	<del>75 KHz</del> 95 KC (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 5	<del>79 KHz</del> 91 KC (7.8 mv $\pm 0.8$ mv)	<u>7.7</u> mv
	Channel 6	<del>83 KHz</del> 87 KC (7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
	Channel 7	<del>87 KHz</del> 83 KC (7.8 mv $\pm 0.8$ mv)	<u>7.7</u> mv
	Channel 8	<del>91 KHz</del> 79 KC (7.8 mv $\pm 0.8$ mv)	<u>7.6</u> mv
	Channel 9	<del>95 KHz</del> 75 KC (7.8 mv $\pm 0.8$ mv)	<u>7.7</u> mv
	Channel 10	<del>99 KHz</del> 71 KC (7.8mv $\pm 0.8$ mv)	<u>7.7</u> mv
	Channel 11	<del>103 KHz</del> 67 KC (7.8 mv $\pm 0.8$ mv)	<u>7.6</u> mv
	Channel 12	<del>107 KHz</del> 63 KC (7.8mv $\pm 0.8$ mv)	<u>7.7</u> mv

10.	SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps		
		-66db (.4mv) / 1db	
104.175 KC	Channel 1	<del>60 X 175 KHz</del> <del>1 X X 25 X Hz</del> <del>0 X 0 2 X Hz</del>	<u>-65.8</u> mv db
100.175 KC	Channel 2	<del>64 X 175 KHz</del> <del>1 X X 25 X Hz</del> <del>0 X 0 2 X Hz</del>	<u>-66.2</u> mv "
96.175 KC	Channel 3	<del>68 X 175 KHz</del> <del>1 X X 25 X Hz</del> <del>0 X 0 2 X Hz</del>	<u>-66.8</u> mv "
92.175 KC	Channel 4	<del>72 X 175 KHz</del> <del>1 X X 25 X Hz</del> <del>0 X 0 2 X Hz</del>	<u>-66.9</u> mv "
88.175 KC	Channel 5	<del>76 X 175 KHz</del> <del>1 X X 25 X Hz</del> <del>0 X 0 2 X Hz</del>	<u>-66.1</u> mv "
84.175 KC	Channel 6	<del>80 X 175 KHz</del> <del>1 X X 25 X Hz</del> <del>0 X 0 2 X Hz</del>	<u>-66.5</u> mv "
80.175 KC	Channel 7	<del>84 X 175 KHz</del> <del>1 X X 25 X Hz</del> <del>0 X 0 2 X Hz</del>	<u>-66.8</u> mv "
76.175 KC	Channel 8	<del>88 X 175 KHz</del> <del>1 X X 25 X Hz</del> <del>0 X 0 2 X Hz</del>	<u>-66.8</u> mv "
72.175 KC	Channel 9	<del>92 X 175 KHz</del> <del>1 X X 25 X Hz</del> <del>0 X 0 2 X Hz</del>	<u>-66.3</u> mv "
68.175 KC	Channel 10	<del>96 X 175 KHz</del> <del>1 X X 25 X Hz</del> <del>0 X 0 2 X Hz</del>	<u>-66.5</u> mv "
64.175 KC	Channel 11	<del>100 X 175 KHz</del> <del>1 X X 25 X Hz</del> <del>0 X 0 2 X Hz</del>	<u>-66.6</u> mv "
60.175 KC	Channel 12	<del>104 X 175 KHz</del> <del>1 X X 25 X Hz</del> <del>0 X 0 2 X Hz</del>	<u>-66.7</u> mv db



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKRTransmission Path: From Station TKR TO Station TKGMultiplex Rack No. ONE

	EXPECTED	ACTUAL
II. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>N/A</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>4.9</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>N/A</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>N/A</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>7.7</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>N/A</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>15.5</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18.0</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

BRII/41

STATION TKR

Transmission Path: From Station TKR to Station TKG

Multiplex Rack No. ONE

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 2	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 4	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 5	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 6	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 8	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 9	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 10	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 11	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>
Channel 12	(+7 dbm $\pm$ 0.5 db)	<u>+7.0 dbm</u>

DATE 22 OCTOBER 1963

TESTER

SUPERVISOR Raymond H. Green

QUALITY ASSURANCE W. L. Smith

GEEIA

Ralph H. Bridges

Sheet 4 of 4



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION            TKR           

Transmission Path: From            TKR            Station to            TIZ            Station

MC-50 Multiplex Rack No.            1-2           

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A</u> v
	TP3	(1.0v±0.1v)	<u>N/A</u> v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>Int</u>
	TP1	(1.0v ±0.1v)	<u>2.00</u> v
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>&gt;15.0</u> v
4.	CHANNEL CARRIER SUPPLY		
	Channel 1 64 kc	(1.1v min)	<u>1.20</u> v.
	Channel 2 68 kc	(1.1v min)	<u>1.30</u> v
	Channel 3 72 kc	(1.1v min)	<u>1.17</u> v
	Channel 4 76 kc	(1.1v min)	<u>1.20</u> v
	Channel 5 80 kc	(1.1v min)	<u>1.25</u> v
	Channel 6 84 kc	(1.1v min)	<u>1.25</u> v
	Channel 7 88 kc	(1.1v min)	<u>1.20</u> v
	Channel 8 92 kc	(1.1v min)	<u>1.19</u> v
	Channel 9 96 kc	(1.1v min)	<u>1.20</u> v
	Channel 10 100 kc	(1.1v min)	<u>1.20</u> v
	Channel 11 104 kc	(1.1v min)	<u>1.15</u> v
	Channel 12 108 kc	(1.1v min)	<u>1.25</u> v
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>N/A</u> v
6.	CHANNEL CARRIER LEAK		
	Channel 1 64 kc	(.13 mv max)	<u>.104</u> mv
	Channel 2 68 kc	(.13 mv max)	<u>.116</u> mv
	Channel 3 72 kc	(.13 mv max)	<u>.075</u> mv
	Channel 4 76 kc	(.13 mv max)	<u>.025</u> mv
	Channel 5 80 kc	(.13 mv max)	<u>.044</u> mv
	Channel 6 84 kc	(.13 mv max)	<u>.058</u> mv
	Channel 7 88 kc	(.13 mv max)	<u>.055</u> mv
	Channel 8 92 kc	(.13 mv max)	<u>.030</u> mv
	Channel 9 96 kc	(.13 mv max)	<u>.055</u> mv
	Channel 10 100 kc	(.13 mv max)	<u>.036</u> mv
	Channel 11 104 kc	(.13 mv max)	<u>.034</u> mv
	Channel 12 108 kc	(.13 mv max)	<u>.028</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TKRTransmission Path: From Station TKR to Station TIZMultiplex Rack No. 2

## EXPECTED

## ACTUAL

7. GROUP CARRIER LEAK (1rav max) N/A mv
8. SIGNALLING SUPPLY LEVEL (2v.  $\pm 0.2v$ ) 2.03mv
9. CHANNEL TRANSMIT LEVEL AT GROUP LEVEL  
(Input to Channel Modulator -1000 cps at -16 dbm):

Channel 1	63 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.50</u> mv
Channel 2	67 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.77</u> mv
Channel 3	71 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.80</u> mv
Channel 4	75 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.70</u> mv
Channel 5	79 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.80</u> mv
Channel 6	83 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.80</u> mv
Channel 7	87 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.70</u> mv
Channel 8	91 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.75</u> mv
Channel 9	95 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.70</u> mv
Channel 10	99 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.70</u> mv
Channel 11	103 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.70</u> mv
Channel 12	107 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.75</u> mv

10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps

*66 dB (4 MV) + 1 dB*

Channel 1	60.175 kc	(.125 mv $\pm 0.02$ mv)	<u>65.4</u> mv
Channel 2	64.175 kc	(.125 mv $\pm 0.02$ mv)	<u>65.6</u> mv
Channel 3	68.175 kc	(.125 mv $\pm 0.02$ mv)	<u>65.7</u> mv
Channel 4	72.175 kc	(.125 mv $\pm 0.02$ mv)	<u>65.3</u> mv
Channel 5	76.175 kc	(.125 mv $\pm 0.02$ mv)	<u>66.5</u> mv
Channel 6	80.175 kc	(.125 mv $\pm 0.02$ mv)	<u>65.4</u> mv
Channel 7	84.175 kc	(.125 mv $\pm 0.02$ mv)	<u>65.6</u> mv
Channel 8	88.175 kc	(.125 mv $\pm 0.02$ mv)	<u>65.7</u> mv
Channel 9	92.175 kc	(.125 mv $\pm 0.02$ mv)	<u>65.4</u> mv
Channel 10	96.175 kc	(.125 mv $\pm 0.02$ mv)	<u>65.3</u> mv
Channel 11	100.175 kc	(.125 mv $\pm 0.02$ mv)	<u>65.3</u> mv
Channel 12	104.175 kc	(.125 mv $\pm 0.02$ mv)	<u>65.4</u> mv

*(-66 dB  $\pm 1$  dB (0.04 MV))*



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

BR11/41

STATION TKR

Transmission Path: From Station TKR TO Station TIZ

Multiplex Rack No. 2

	EXPECTED	ACTUAL
II. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>N/A</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>4.95</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>N/A</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>N/A</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>7.80</u> mv
12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>N/A</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>15.7</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18.00</u> mv
13. CHANNEL RECEIVE LEVELS		
VF REC Test Point		
Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>-31.8</u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>-31.0</u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-30.8</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>-31.3</u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>-31.3</u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>-31.5</u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-30.8</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>-31.2</u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>-31.5</u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>-30.3</u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-31.3</u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>-31.1</u> dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

BRH/41

STATION TKR

Transmission Path: From Station TKR to Station TIZ

Multiplex Rack No. 2A

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

Channel 1	(+7 dbm $\pm$ 0.5 db)	+7.2 dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	+7.0 dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	+7.2 dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	+7.3 dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	+7.0 dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	+7.0 dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	+6.8 dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	+6.8 dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	+6.7 dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	+7.0 dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	+6.9 dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	+7.0 dbm

DATE 12 NOVEMBER 1963

TESTER [Signature]

SUPERVISOR [Signature]

QUALITY ASSURANCE [Signature]

GEEIA VERIFIED 11/12/63

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FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TIZTransmission Path: From TIZ Station to TKR StationMC-50 Multiplex Rack No. ONE

		EXPECTED	ACTUAL
1.	MASTER OSCILLATOR LEVELS		
	TP1	(1.0v±0.1v)	<u>N/A</u> v
	TP3	(1.0v±0.1v)	<u>N/A</u> v
2.	SLAVE OSCILLATOR SYNCHRONIZATION AND OUTPUT LEVELS		
	Scope Pattern	(locked)	<u>Int</u>
	TP1	(1.0v ±0.1v)	<u>1</u> v
3.	HARMONIC GENERATOR LEVELS	(15v pp min)	<u>      </u> v
4.	CHANNEL CARRIER SUPPLY		
	Channel 1	<del>80 kc</del> 108 kc (1.1v min)	<u>1.35</u> v
	Channel 2	<del>88 kc</del> 104 kc (1.1v min)	<u>1.30</u> v
	Channel 3	<del>72 kc</del> 100 kc (1.1v min)	<u>1.30</u> v
	Channel 4	<del>76 kc</del> 96 kc (1.1v min)	<u>1.20</u> v
	Channel 5	<del>80 kc</del> 92 kc (1.1v min)	<u>1.25</u> v
	Channel 6	<del>84 kc</del> 88 kc (1.1v min)	<u>1.20</u> v
	Channel 7	<del>88 kc</del> 84 kc (1.1v min)	<u>1.20</u> v
	Channel 8	<del>92 kc</del> 80 kc (1.1v min)	<u>1.18</u> v
	Channel 9	<del>96 kc</del> 76 kc (1.1v min)	<u>1.20</u> v
	Channel 10	<del>100 kc</del> 72 kc (1.1v min)	<u>1.15</u> v
	Channel 11	<del>104 kc</del> 68 kc (1.1v min)	<u>1.15</u> v
	Channel 12	<del>108 kc</del> 64 kc (1.1v min)	<u>1.12</u> v
5.	GROUP CARRIER SUPPLY	(2v±0.2v)	<u>N/A</u> v
6.	CHANNEL CARRIER LEAK		
	Channel 1	<del>60 db</del> 108 kc (.13 mv max)	<u>.11</u> mv
	Channel 2	<del>60 db</del> 104 kc (.13 mv max)	<u>.13</u> mv
	Channel 3	<del>52 db</del> 100 kc (.13 mv max)	<u>.10</u> mv
	Channel 4	<del>52 db</del> 96 kc (.13 mv max)	<u>.08</u> mv
	Channel 5	<del>50 db</del> 92 kc (.13 mv max)	<u>.055</u> mv
	Channel 6	<del>50 db</del> 88 kc (.13 mv max)	<u>.055</u> mv
	Channel 7	<del>50 db</del> 84 kc (.13 mv max)	<u>.08</u> mv
	Channel 8	<del>52 db</del> 80 kc (.13 mv max)	<u>.02</u> mv
	Channel 9	<del>50 db</del> 76 kc (.13 mv max)	<u>.05</u> mv
	Channel 10	<del>50 db</del> 72 kc (.13 mv max)	<u>.06</u> mv
	Channel 11	<del>50 db</del> 68 kc (.13 mv max)	<u>.07</u> mv
	Channel 12	<del>50 db</del> 64 kc (.13 mv max)	<u>.10</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TIZTransmission Path: From Station TIZ to Station TKRMultiplex Rack No. ONE

## EXPECTED

## ACTUAL

7. GROUP CARRIER LEAK (1rav max) N/A mv
8. SIGNALLING SUPPLY LEVEL (2v.  $\pm 0.2v$ ) 2.0 mv
9. CHANNEL TRANSMIT LEVEL AT GROUP LEVEL  
(Input to Channel Modulator -1000 cps at -16 dbm):

Channel 1	<del>83.000</del> 107 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 2	<del>63.000</del> 103 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 3	<del>71.000</del> 99 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 4	<del>73.000</del> 95 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 5	<del>79.000</del> 91 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.4</u> mv
Channel 6	<del>83.000</del> 87 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.5</u> mv
Channel 7	<del>87.000</del> 83 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.8</u> mv
Channel 8	<del>91.000</del> 79 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.4</u> mv
Channel 9	<del>95.000</del> 75 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.6</u> mv
Channel 10	<del>99.000</del> 71 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.4</u> mv
Channel 11	<del>103.000</del> 67 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.4</u> mv
Channel 12	<del>107.000</del> 63 kc	(7.8 mv $\pm 0.8$ mv)	<u>7.4</u> mv

10. SIGNALLING LEVEL (AT GROUP INPUT) 3825 cps CHANNELS 3, 7 & 11

Channel 1	60.175 kc	(.125 mv $\pm 0.02$ mv)	<u>      </u> mv
Channel 2	64.175 kc	(.125 mv $\pm 0.02$ mv)	<u>      </u> mv
Channel 3	68.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>-66.2</u> db
Channel 4	72.175 kc	(.125 mv $\pm 0.02$ mv)	<u>      </u> mv
Channel 5	76.175 kc	(.125 mv $\pm 0.02$ mv)	<u>      </u> mv
Channel 6	80.175 kc	(.125 mv $\pm 0.02$ mv)	<u>      </u> mv
Channel 7	84.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>-66.0</u> db
Channel 8	88.175 kc	(.125 mv $\pm 0.02$ mv)	<u>      </u> mv
Channel 9	92.175 kc	(.125 mv $\pm 0.02$ mv)	<u>      </u> mv
Channel 10	96.175 kc	(.125 mv $\pm 0.02$ mv)	<u>      </u> mv
Channel 11	100.175 kc	<del>(.125 mv <math>\pm 0.02</math> mv)</del>	<u>-66.8</u> db
Channel 12	104.175 kc	(.125 mv $\pm 0.02$ mv)	<u>      </u> mv

E/S 10-1-1963 (-66db (0.04mv)  $\pm 1$ db)

Sheet 2 of 4



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

STATION TIZTransmission Path: From Station TIZ TO Station TKRMultiplex Rack No. ONE

	EXPECTED	ACTUAL
11. GROUP TRANSMIT LEVEL		
MRC-85, MRC-80 & FRC-39A(V) Stations	(13.7mv $\pm$ 0.7 mv)	<u>N/A</u> mv
MW503A LOS Stations	(4.9 mv $\pm$ 0.2mv)	<u>4.9</u> mv
MRC-85 & FRC-39A(V) Modulator Input Level	(27.4mv $\pm$ 1.5 mv)	<u>N/A</u> mv
MRC-80 Transmitter Input Level	(-10 dbm $\pm$ 0.5 dbm)	<u>N/A</u> dbm
MW503A Transmitter Input Level	(7.7 mv $\pm$ 0.3 mv)	<u>7.6</u> mv

12. GROUP RECEIVE LEVEL		
GRP IN (TP7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7mv $\pm$ 0.8 mv)	<u>N/A</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 0.9 mv)	<u>15.5</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 0.5 mv)	<u>N/A</u> mv
GRP OUT (TP4)	(18 mv $\pm$ 1 mv)	<u>18.0</u> mv

## 13. CHANNEL RECEIVE LEVELS

VF REC Test Point

CHANNELS 3,7 &amp; 11 CHECKED

Channel 1	(-31 dbm $\pm$ 1 dbm)	<u>          </u> dbm
Channel 2	(-31 dbm $\pm$ 1 dbm)	<u>          </u> dbm
Channel 3	(-31 dbm $\pm$ 1 dbm)	<u>-30.5</u> dbm
Channel 4	(-31 dbm $\pm$ 1 dbm)	<u>          </u> dbm
Channel 5	(-31 dbm $\pm$ 1 dbm)	<u>          </u> dbm
Channel 6	(-31 dbm $\pm$ 1 dbm)	<u>          </u> dbm
Channel 7	(-31 dbm $\pm$ 1 dbm)	<u>-30.5</u> dbm
Channel 8	(-31 dbm $\pm$ 1 dbm)	<u>          </u> dbm
Channel 9	(-31 dbm $\pm$ 1 dbm)	<u>          </u> dbm
Channel 10	(-31 dbm $\pm$ 1 dbm)	<u>          </u> dbm
Channel 11	(-31 dbm $\pm$ 1 dbm)	<u>-30.5</u> dbm
Channel 12	(-31 dbm $\pm$ 1 dbm)	<u>          </u> dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX TEST

BRII/41

STATION TIZ

Transmission Path: From Station TIZ to Station TKR

Multiplex Rack No. ONE

EXPECTED

ACTUAL

13. CHANNEL RECEIVE LEVELS-continued

Channel VF Out

CHANNELS 3,7, & 11 CHECKED

Channel 1	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 2	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 3	(+7 dbm $\pm$ 0.5 db)	<u>-7</u> dbm
Channel 4	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 5	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 6	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 7	(+7 dbm $\pm$ 0.5 db)	<u>-7</u> dbm
Channel 8	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 9	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 10	(+7 dbm $\pm$ 0.5 db)	_____ dbm
Channel 11	(+7 dbm $\pm$ 0.5 db)	<u>-7</u> dbm
Channel 12	(+7 dbm $\pm$ 0.5 db)	_____ dbm

DATE 10 NOVEMBER, 1963

TESTER James F. [Signature]

SUPERVISOR Paul [Signature]

QUALITY ASSURANCE [Signature]

GEEIA [Signature]

Sheet 4 of 4

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FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION G P ATransmission Path: From G P A Station to G H O Station

Multiplex Group No. \_\_\_\_\_

		EXPECTED	ACTUAL
1.	GROUP INPUT LEVEL		
	Channel 1 63 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 2 67 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 3 71 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 4 75 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 5 79 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 6 83 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 7 87 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 8 91 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 9 95 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
	Channel 10 99 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
	Channel 11 103 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
	Channel 12 107 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
2.	CHANNEL SIGNALLING LEVEL AT GROUP INPUT		
	Channel 1 60.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>.37</u> mv
	Channel 2 64.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>.40</u> mv
	Channel 3 68.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>.37</u> mv
	Channel 4 72.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>.40</u> mv
	Channel 5 76.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>.41</u> mv
	Channel 6 80.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>.36</u> mv
	Channel 7 84.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>.38</u> mv
	Channel 8 88.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>.37</u> mv
	Channel 9 92.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
	Channel 10 96.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
	Channel 11 100.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
	Channel 12 104.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
3.	GROUP TRANSMIT LEVEL		
		-66db $\pm$ 1db (.4 mv)	
		.44 max	
		.34 min	
	MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>.13.7</u> mv
	A(V) Stations		
	MW503A, LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>N/A</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION G P ATransmission Path From Station G P A To Station G H O

Multiplex Group No. - \_\_\_\_\_

EXPECTED      ACTUAL

## 4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv)13.8mv

MW-503A LOS

(15.5 mv  $\pm$  1.6 mv)N/A mv

GRP OUT (TP-4)

(18. mv 1 mv)

18 mv

## 5. CHANNEL RECEIVE LEVELS

Channel 1	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7</u> dbm
Channel 2	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7</u> dbm
Channel 3	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7</u> dbm
Channel 4	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7</u> dbm
Channel 5	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7</u> dbm
Channel 6	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7</u> dbm
Channel 7	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7</u> dbm
Channel 8	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7</u> dbm
Channel 9	( $\pm 7$ dbm $\pm 0.5$ db)	_____ dbm
Channel 10	( $\pm 7$ dbm $\pm 0.5$ db)	_____ dbm
Channel 11	( $\pm 7$ dbm $\pm 0.5$ db)	_____ dbm
Channel 12	( $\pm 7$ dbm $\pm 0.5$ db)	_____ dbm

## 6. CHANNEL FREQUENCY RESPONSE

		EXPECTED				ACTUAL							
Channels		1	2	3	4	5	6	7	8	9	10	11	12
Frequency													
300		6.5	5.0	6.7	4.7	4.3	5.0	4.3	5.0				dbm
400	S	6.9	6.7	7.2	6.3	6.1	6.4	6.0	6.2				dbm
600	e	7.3	7.7	7.3	7.3	7.5	7.7	7.4	7.3				dbm
750	B	7.3	7.6	7.0	7.0	7.5	7.7	7.5	7.2				dbm
1000	e	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0				dbm
1250	0	7.0	7.0	7.2	7.0	7.0	7.1	7.0	6.8				dbm
	w												



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION G P ATransmission Path: From Station G P A To Station G H O

Multiplex Group No. \_\_\_\_\_

## CHANNEL FREQUENCY RESPONSE (continued)

Channels Frequency	EXPECTED					ACTUAL							
	1	2	3	4	5	6	7	8	9	10	11	12	
1500	7.0	7.2	7.5	7.1	7.4	7.3	7.2	7.1					dbm
1750	7.0	7.1	7.4	7.0	7.4	7.3	7.3	7.1					dbm
2000	7.0	7.0	7.2	6.8	7.3	7.4	7.0	7.1					dbm
2250	7.1	7.0	7.1	6.8	7.5	7.4	6.6	7.2					dbm
2400	6.9	7.3	7.0	7.0	7.6	7.4	6.6	7.1					dbm
2750	6.7	7.5	7.2	7.5	7.7	7.5	6.8	7.3					dbm
3000	7.0	7.0	6.9	7.2	7.2	7.0	6.9	7.3					dbm
3200	7.3	6.5	6.4	7.0	7.3	6.4	6.9	7.5					dbm
3300	7.4	6.4	6.2	7.0	7.3	6.0	6.8	7.5					dbm
3400	7.2	6.4	5.6	7.2	7.7	5.9	6.4	7.5					dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

- 300-399 cps (+ 0.75 db, -2.9 db)  
 400-599 cps (+ 0.75 db, -1.5 db)  
 600-2400 cps (+0.75 db, -0.75 db)  
 2401-3000 cps (+0.75 db, -1.5 db)  
 3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION G P ATransmission Path; From G P A Station to G H O Station

Multiplex Group No. \_\_\_\_\_

## 8. GAIN CHANGE

## INPUT LEVEL

## EXPECTED

## ACTUAL

Input Level

Input Level	EXPECTED	ACTUAL
		-16 dbm ref. -14 dbm -2dbm
Channel 1	7.0 dbm	9.0 dbm 12.9dbm
Channel 2	7.0 dbm	9.0 dbm 14 dbm
Channel 3	7.0 dbm	9.0 dbm 13.5 dbm
Channel 4	7.0 dbm	8.9 dbm 13 dbm
Channel 5	7.0 dbm	9.0 dbm 14 dbm
Channel 6	7.0 dbm	9.0 dbm 14 dbm
Channel 7	7.0 dbm	8.9 dbm 14 dbm
Channel 8	7.0 dbm	8.9 dbm 13 dbm
Channel 9		dbm dbm dbm
Channel 10		dbm dbm dbm
Channel 11		dbm dbm dbm
Channel 12		dbm dbm dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 7 JANUARY 1964TESTER RT. H. BrownSUPERVISOR [Signature]QUALITY ASSURANCE [Signature]



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

Transmission Path: From GPA ~~GIF~~ Station to GIM ~~GPA~~ Station  
Multiplex Group No. 2

		EXPECTED	ACTUAL
1.	GROUP INPUT LEVEL		
	Channel 1 <u>107.63</u> kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 2 <u>104.67</u> kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 3 <u>100.71</u> kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 4 <u>96.75</u> kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.6</u> mv
	Channel 5 79 kc	(7.8 mv $\pm$ 0.8 mv)	mv
	Channel 6 83 kc	(7.8 mv $\pm$ 0.8 mv)	mv
	Channel 7 87 kc	(7.8 mv $\pm$ 0.8 mv)	mv
	Channel 8 91 kc	(7.8 mv $\pm$ 0.8 mv)	mv
	Channel 9 95 kc	(7.8 mv $\pm$ 0.8 mv)	mv
	Channel 10 99 kc	(7.8 mv $\pm$ 0.8 mv)	mv
	Channel 11 103 kc	(7.8 mv $\pm$ 0.8 mv)	mv
	Channel 12 107 kc	(7.8 mv $\pm$ 0.8 mv)	mv
2.	CHANNEL SIGNALLING LEVEL AT GROUP INPUT		
	Channel 1 60.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.42</u> mv
	Channel 2 64.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.43</u> mv
	Channel 3 68.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.42</u> mv
	Channel 4 72.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4</u> mv
	Channel 5 76.125 kc	(.125 mv $\pm$ 0.02 mv)	mv
	Channel 6 80.125 kc	(.125 mv $\pm$ 0.02 mv)	mv
	Channel 7 84.125 kc	(.125 mv $\pm$ 0.02 mv)	mv
	Channel 8 88.125 kc	(.125 mv $\pm$ 0.02 mv)	mv
	Channel 9 92.125 kc	(.125 mv $\pm$ 0.02 mv)	mv
	Channel 10 96.125 kc	(.125 mv $\pm$ 0.02 mv)	mv
	Channel 11 100.125 kc	(.125 mv $\pm$ 0.02 mv)	mv
	Channel 12 104.125 kc	(.125 mv $\pm$ 0.02 mv)	mv
	<u>-66 db(0.4 mv) <math>\pm</math> 1 db</u>		
3.	GROUP TRANSMIT LEVEL		
	MRC-85, MRC-80 & FRC-39 A(V) Stations	(13.7 mv $\pm$ 0.7 mv)	<u>N/A</u> mv
	MW503A, LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>4.9</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

Transmission Path From Station GPA To Station GPA GIM  
Multiplex Group No. - 2

	EXPECTED	ACTUAL
4. GROUP RECEIVE LEVEL		
GRP IN (TP-7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7 mv $\pm$ 1.5 mv)	N/A mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 1.8 mv)	15.5 mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 1.0 mv)	7.7 mv
GRP OUT (TP-4)	(18.0 mv $\pm$ 1.0 mv)	18.0 mv

## 5. CHANNEL RECEIVE LEVELS

Channel	EXPECTED	ACTUAL
Channel 1	( $\pm 7$ dbm $\pm 0.5$ db)	+7 dbm
Channel 2	( $\pm 7$ dbm $\pm 0.5$ db)	+7 dbm
Channel 3	( $\pm 7$ dbm $\pm 0.5$ db)	+7 dbm
Channel 4	( $\pm 7$ dbm $\pm 0.5$ db)	+7 dbm
Channel 5	( $\pm 7$ dbm $\pm 0.5$ db)	dbm
Channel 6	( $\pm 7$ dbm $\pm 0.5$ db)	dbm
Channel 7	( $\pm 7$ dbm $\pm 0.5$ db)	dbm
Channel 8	( $\pm 7$ dbm $\pm 0.5$ db)	dbm
Channel 9	( $\pm 7$ dbm $\pm 0.5$ db)	dbm
Channel 10	( $\pm 7$ dbm $\pm 0.5$ db)	dbm
Channel 11	( $\pm 7$ dbm $\pm 0.5$ db)	dbm
Channel 12	( $\pm 7$ dbm $\pm 0.5$ db)	dbm

## 6. CHANNEL FREQUENCY RESPONSE

		EXPECTED	ACTUAL											
Channels			1	2	3	4	5	6	7	8	9	10	11	12
Frequency														
300			6.7	7.7	4.7	6.3								dbm
400	S		7.0	7.5	6.0	6.9								dbm
600	e		7.0	7.4	7.2	7.6								dbm
750	B		7.0	7.3	7.3	7.5								dbm
1000	e		7.0	7.0	7.0	7.0								dbm
1250	l		7.0	7.0	7.3	7.1								dbm
	o													
	w													



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GPA

Transmission Path: From Station GPA ~~BM~~ To Station GPA ~~GIM~~

Multiplex Group No. 2

## CHANNEL FREQUENCY RESPONSE (continued)

Channels Frequency	EXPECTED				ACTUAL								
	1	2	3	4	5	6	7	8	9	10	11	12	
1500	<u>7.2</u>	<u>7.0</u>	<u>7.7</u>	<u>7.5</u>									dbm
1750	<u>7.3</u>	<u>6.8</u>	<u>7.4</u>	<u>7.2</u>									dbm
2000	<u>7.3</u>	<u>6.9</u>	<u>7.2</u>	<u>7.2</u>									dbm
2250	<u>7.0</u>	<u>7.0</u>	<u>7.2</u>	<u>7.0</u>									dbm
2400	<u>7.3</u>	<u>7.3</u>	<u>7.1</u>	<u>7.1</u>									dbm
2750	<u>6.7</u>	<u>7.3</u>	<u>7.0</u>	<u>7.0</u>									dbm
3000	<u>6.3</u>	<u>6.4</u>	<u>6.7</u>	<u>6.7</u>									dbm
3200	<u>6.2</u>	<u>6.8</u>	<u>6.1</u>	<u>6.7</u>									dbm
3300	<u>6.0</u>	<u>7.0</u>	<u>5.8</u>	<u>6.8</u>									dbm
3400	<u>5.4</u>	<u>7.0</u>	<u>4.9</u>	<u>6.1</u>									dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

- 300-399 cps (+ 0.75 db, -2.9 db)  
 400-599 cps (+ 0.75 db, -1.5 db)  
 600-2400 cps (+0.75 db, -0.75 db)  
 2401-3000 cps (+0.75 db, -1.5 db)  
 3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GPA  
Transmission Path; From GPA Station to GPA Station  
Multiplex Group No. 2

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 1

Channel 2

Channel 3

Channel 4

Channel 5

Channel 6

Channel 7

Channel 8

Channel 9

Channel 10

Channel 11

Channel 12

S  
e  
e  
B  
e  
l  
o  
w

Channel	-16 dbm ref.	-14 dbm	-2dbm
Channel 1	+7 dbm	+8.9 dbm	+13.5 dbm
Channel 2	+7 dbm	+8.7 dbm	+10.7 dbm
Channel 3	+7 dbm	+8.9 dbm	+12.9 dbm
Channel 4	+7 dbm	+8.8 dbm	+13.1 dbm
Channel 5	dbm	dbm	dbm
Channel 6	dbm	dbm	dbm
Channel 7	dbm	dbm	dbm
Channel 8	dbm	dbm	dbm
Channel 9	dbm	dbm	dbm
Channel 10	dbm	dbm	dbm
Channel 11	dbm	dbm	dbm
Channel 12	dbm	dbm	dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 13 November 1963TESTER Vincent E QuinnSUPERVISOR J. SweeneyQUALITY ASSURANCE W. CarlsG E F I A Ronald A. Haberman



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

Transmission Path: From GPA Station to GTA Station  
Multiplex Group No. 2

		EXPECTED	ACTUAL
1.	GROUP INPUT LEVEL		
	Channel 1 63 kc	(7.8 mv $\pm$ 0.8 mv)	<u>      </u> mv
	Channel 2 67 kc	(7.8 mv $\pm$ 0.8 mv)	<u>      </u> mv
	Channel 3 71 kc	(7.8 mv $\pm$ 0.8 mv)	<u>      </u> mv
	Channel 4 75 kc	(7.8 mv $\pm$ 0.8 mv)	<u>      </u> mv
	Channel 5 <del>92.79</del> kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 6 <del>88.83</del> kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 7 <del>84.87</del> kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 8 <del>80.91</del> kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 9 95 kc	(7.8 mv $\pm$ 0.8 mv)	<u>      </u> mv
	Channel 10 99 kc	(7.8 mv $\pm$ 0.8 mv)	<u>      </u> mv
	Channel 11 103 kc	(7.8 mv $\pm$ 0.8 mv)	<u>      </u> mv
	Channel 12 107 kc	(7.8 mv $\pm$ 0.8 mv)	<u>      </u> mv
2.	CHANNEL SIGNALLING LEVEL AT GROUP INPUT		
	Channel 1 60.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>      </u> mv
	Channel 2 64.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>      </u> mv
	Channel 3 68.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>      </u> mv
	Channel 4 72.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>      </u> mv
	Channel 5 76.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4</u> mv
	Channel 6 80.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4</u> mv
	Channel 7 84.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4</u> mv
	Channel 8 88.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4</u> mv
	Channel 9 92.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>      </u> mv
	Channel 10 96.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>      </u> mv
	Channel 11 100.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>      </u> mv
	Channel 12 104.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>      </u> mv
3.	GROUP TRANSMIT LEVEL		
	MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>NA</u> mv
	A(V) Stations		
	MW503A LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>4.9</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

Transmission Path From Station GPA To Station GPA

Multiplex Group No. - 2

EXPECTED ACTUAL

4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)

(13.7 mv  $\pm$  1.5 mv)

NA mv

MW-503A LOS

(15.5 mv  $\pm$  1.8 mv)

15.5 mv

GRP OUT (TP-4)

(18.0 mv  $\pm$  1.0 mv)

18 mv

5. CHANNEL RECEIVE LEVELS

Channel 1

( $\pm 7$  dbm  $\pm 0.5$  db)

dbm

Channel 2

( $\pm 7$  dbm  $\pm 0.5$  db)

dbm

Channel 3

( $\pm 7$  dbm  $\pm 0.5$  db)

dbm

Channel 4

( $\pm 7$  dbm  $\pm 0.5$  db)

dbm

Channel 5

( $\pm 7$  dbm  $\pm 0.5$  db)

+7 dbm

Channel 6

( $\pm 7$  dbm  $\pm 0.5$  db)

+7 dbm

Channel 7

( $\pm 7$  dbm  $\pm 0.5$  db)

+7 dbm

Channel 8

( $\pm 7$  dbm  $\pm 0.5$  db)

+7 dbm

Channel 9

( $\pm 7$  dbm  $\pm 0.5$  db)

dbm

Channel 10

( $\pm 7$  dbm  $\pm 0.5$  db)

dbm

Channel 11

( $\pm 7$  dbm  $\pm 0.5$  db)

dbm

Channel 12

( $\pm 7$  dbm  $\pm 0.5$  db)

dbm

6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels

1 2 3 4 5 6 7 8 9 10 11 12

Frequency

300

7.3 7.0 7.2 7.6 dbm

400

S

7.1 6.9 7.0 7.0 dbm

600

e

7.5 7.3 7.4 7.3 dbm

750

B

7.3 7.3 7.4 7.2 dbm

1000

e

7.0 7.0 7.0 7.0 dbm

1250

0

7.0 6.8 7.0 7.0 dbm

w



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GPA

Transmission Path: From Station GPA To Station GPA

Multiplex Group No. 2

## CHANNEL FREQUENCY RESPONSE (continued)

Channels Frequency	EXPECTED				ACTUAL								
	1	2	3	4	5	6	7	8	9	10	11	12	
1500					7.3	7.0	7.2	7.2					dbm
1750					7.2	7.0	7.3	7.5					dbm
2000					7.0	6.9	7.6	7.5					dbm
2250					7.1	7.0	7.5	7.4					dbm
2400					7.2	7.2	7.5	7.5					dbm
2750					7.1	7.3	7.6	7.7					dbm
3000					6.7	6.6	7.3	7.0					dbm
3200					6.7	6.1	7.0	6.8					dbm
3300					6.8	5.8	6.9	6.3					dbm
3400					6.4	5.8	6.5	6.0					dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

300-399 cps (+ 0.75 db, -2.9 db)

400-599 cps (+ 0.75 db, -1.5 db)

600-2400 cps (+0.75 db, -0.75 db)

2401-3000 cps (+0.75 db, -1.5 db)

3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

Transmission Path; From GPA ~~GTA~~ STATION Station to GTA ~~GPA~~ STATION  
Multiplex Group No. 2

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 15

Channel 26

Channel 37

Channel 48

Channel 5

Channel 6

Channel 7

Channel 8

Channel 9

Channel 10

Channel 11

Channel 12

S  
e  
e  
B  
e  
l  
o  
w

Channel	-16 dbm ref.	-14 dbm	-2dbm
Channel 15	+7 dbm	+8.8 dbm	+13.1 dbm
Channel 26	+7 dbm	+8.9 dbm	+12.9 dbm
Channel 37	+7 dbm	+8.7 dbm	+10.7 dbm
Channel 48	+7 dbm	+8.9 dbm	+13.5 dbm
Channel 5	dbm	dbm	dbm
Channel 6	dbm	dbm	dbm
Channel 7	dbm	dbm	dbm
Channel 8	dbm	dbm	dbm
Channel 9	dbm	dbm	dbm
Channel 10	dbm	dbm	dbm
Channel 11	dbm	dbm	dbm
Channel 12	dbm	dbm	dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 15 Nov 63

TESTER W. J. SchreyerSUPERVISOR R. J. GreenQUALITY ASSURANCE M. Carif

C6610 Serial 94610



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

Transmission Path: From T19 Station to GPA Station  
Multiplex Group No. 1 & 2

## EXPECTED

## ACTUAL

## 1. GROUP INPUT LEVEL

L.G.

H.G.

Channel 1	63 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv	7.8
Channel 2	67 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv	7.8
Channel 3	71 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv	7.8
Channel 4	75 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv	7.8
Channel 5	79 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv	7.8
Channel 6	83 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv	7.8
Channel 7	87 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv	7.8
Channel 8	91 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv	7.8
Channel 9	95 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv	7.8
Channel 10	99 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv	7.8
Channel 11	103 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv	7.8
Channel 12	107 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv	7.8

## 2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

Channel 1	60.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.42</u> mv	0.38
Channel 2	64.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.42</u> mv	0.44
Channel 3	68.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.43</u> mv	0.44
Channel 4	72.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.43</u> mv	0.43
Channel 5	76.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.42</u> mv	0.43
Channel 6	80.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.41</u> mv	0.42
Channel 7	84.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.42</u> mv	0.39
Channel 8	88.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.41</u> mv	0.44
Channel 9	92.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.43</u> mv	0.42
Channel 10	96.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4</u> mv	
Channel 11	100.125 kc	(.125 mv $\pm$ 0.02 mv)		
Channel 12	104.125 kc	(.125 mv $\pm$ 0.02 mv)		

## 3. GROUP TRANSMIT LEVEL

L.G.

H.G.

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>13.7</u> mv	13.7
A(V) Stations			
MW503A, LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>N/A</u> mv	



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GPATransmission Path From Station TID To Station GPAMultiplex Group No. - 1 & 2

EXPECTED

ACTUAL

## 4. GROUP RECEIVE LEVEL

LG. 14.6

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv)14 mv 13~~MW-503A LOS~~(15.5 mv  $\pm$  1.8 mv)mv

GRP OUT (TP-4)

(18.0 mv  $\pm$  1.0 mv)18.1 mv 18.3

## 5. CHANNEL RECEIVE LEVELS

Channel 1

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm +7

Channel 2

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm +7.1

Channel 3

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm +7

Channel 4

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm +7

Channel 5

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm +7.4

Channel 6

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm +7.1

Channel 7

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm +7.2

Channel 8

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm +7.2

Channel 9

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm +7.2

Channel 10

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm +7

Channel 11

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm +7.3

Channel 12

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm +7.3

## 6. CHANNEL FREQUENCY RESPONSE

LOW GROUP

EXPECTED

ACTUAL

Channels

1 2 3 4 5 6 7 8 9 10 11 12

Frequency

300		7.3	7.4	7.6	6.8	6.0	7.0	5.2	7.6	6.8	7.3	7.0	7.7	dbm
400	S	7.3	7.0	6.9	6.7	5.7	6.9	6.3	7.0	6.8	7.3	6.7	7.1	dbm
600	E	7.3	7.5	7.3	7.4	7.3	7.7	7.4	7.3	7.7	7.5	7.3	7.0	dbm
750	B	7.2	7.5	7.2	7.3	7.4	7.7	7.3	7.3	7.6	7.3	7.3	7.0	dbm
1000	e	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	dbm
1250	l	6.9	7.0	7.0	6.6	7.1	7.0	7.1	7.1	7.0	7.0	7.1	6.9	dbm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GPATransmission Path: From Station TGD To Station GPAMultiplex Group No. ~~1~~ Low Group

## CHANNEL FREQUENCY RESPONSE (continued)

Channels Frequency	EXPECTED					ACTUAL							
	1	2	3	4	5	6	7	8	9	10	11	12	
1500	7.0	6.5	7.6	6.8	7.3	7.3	7.4	7.6	7.5	7.7	7.2	7.0	dbm
1750	7.2	6.7	7.6	6.8	7.7	7.5	7.4	7.8	7.7	7.7	6.7	7.0	dbm
2000	7.3	6.8	7.7	6.5	7.7	7.5	7.3	7.8	7.6	7.7	6.6	7.1	dbm
2250	7.4	6.8	7.5	6.6	7.4	7.6	7.0	7.3	7.3	7.3	6.7	7.1	dbm
2400	7.6	6.8	7.3	6.6	7.3	7.6	7.1	7.3	7.2	7.3	6.9	6.7	dbm
2750	7.3	6.7	6.5	6.7	6.6	7.4	7.3	6.6	7.0	6.8	7.3	6.7	dbm
3000	7.6	5.8	6.0	6.5	5.8	7.3	7.4	6.8	7.3	6.3	6.9	7.3	dbm
3200	7.3	4.9	5.4	6.5	5.6	6.9	7.0	6.9	7.3	5.7	6.0	7.0	dbm
3300	6.5	4.5	4.9	6.6	5.8	6.5	6.3	6.9	7.3	5.6	5.4	6.9	dbm
3400	5.4	4.4	4.3	6.6	5.6	6.3	5.0	6.2	6.3	5.4	4.1	4.5	dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

300-399 cps (+ 0.75 db, -2.9 db)

400-599 cps (+ 0.75 db, -1.5 db)

600-2400 cps (+0.75 db, -0.75 db)

2401-3000 cps (+0.75 db, -1.5 db)

3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



STATION GPA

BR II / 42

TRANSMISSION PATH : GPA (TID - GPA)

CHANNEL FREQUENCY RESPONSE

HIGH GROUP

FREQUENCY	1	2	3	4	5	6	7	8	9	10	11	12
300	7.7	7.8	7.0	7.5	6.8	6.9	6.2	7.1	7.1	N.G.	7.3	6.7
400	7.5	7.8	7.4	6.9	7.2	7.5	6.0	7.4	7.5		6.6	6.6
600	7.3	7.9	7.3	7.3	8.0	7.7	7.2	7.4	7.7		7.0	7.1
750	7.2	7.6	7.2	7.3	7.8	7.4	7.4	7.3	7.5		7.0	7.1
1000	7.0	7.3	7.0	7.0	7.4	7.0	7.2	7.0	7.0		7.0	6.8
1250	6.9	7.2	7.0	7.0	7.4	7.0	7.0	7.0	7.3		6.9	6.7
1500	7.2	7.7	7.5	7.4	8.0	7.3	<del>7.6</del>	7.7	7.5		7.1	6.8
1750	7.4	7.8	7.6	7.5	7.8	7.3	7.6	7.6	7.6		6.8	6.8
2000	7.4	7.7	7.5	7.5	7.6	7.3	7.5	7.5	7.6		6.8	6.9
2250	7.4	7.8	7.3	7.0	7.5	7.0	7.2	7.5	7.4		6.6	6.9
2400	7.0	7.8	7.2	7.1	7.5	7.1	7.0	7.5	7.3		6.7	6.8
2750	6.5	7.4	7.3	7.1	7.2	6.8	6.8	7.4	7.0		7.0	6.5
3000	6.5	6.5	7.5	6.8	6.4	6.4	7.1	6.9	7.3		6.9	6.8
3200	7.0	5.8	7.1	6.4	6.5	6.0	6.9	6.4	7.2		6.0	6.5
3300	7.0	5.5	6.5	6.4	6.7	5.8	6.5	6.0	6.9		5.5	5.8
3400	6.5	5.3	5.7	6.0	6.7	5.6	5.8	5.5	6.4		4.5	4.7

NOTE: CHANNEL 10 NOT TESTED.

11-27-63

PAGE 3 OF 4

Q. A. Mceny 2-148

G. E. R. Gerald W. Halm



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GPATransmission Path; From TID Station to GPA StationMultiplex Group No. 1-2

Low group

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 1

Channel 2

Channel 3

Channel 4

Channel 5

Channel 6

Channel 7

Channel 8

Channel 9

Channel 10

Channel 11

Channel 12

S  
e  
e  
B  
e  
l  
o  
w

Input Level	Expected	Actual
Channel 1	+7 dbm	-16 dbm ref. -14 dbm -2dbm +7 dbm +8.8 dbm +12.2 dbm
Channel 2	+7 dbm	+8.8 dbm +14 dbm
Channel 3	+7 dbm	+8.9 dbm +13.6 dbm
Channel 4	+7 dbm	+8.9 dbm +13.1 dbm
Channel 5	+7 dbm	+8.6 dbm +14.1 dbm
Channel 6	+7 dbm	+8.8 dbm +12.0 dbm
Channel 7	+7 dbm	+9.0 dbm +12 dbm
Channel 8	+7 dbm	+9.0 dbm +13.1 dbm
Channel 9	+7 dbm	+8.9 dbm +13.7 dbm
Channel 10	+7 dbm	+8.9 dbm +14.2 dbm
Channel 11	+7 dbm	+8.9 dbm +13.9 dbm
Channel 12	+7 dbm	+8.8 dbm +12.0 dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 26 Nov. 1963TESTER R. J. GibsonSUPERVISOR R. J. GibsonQUALITY ASSURANCE W. C. KingCFEIA Donald H. Hahn



BR II/42

## DATA SHEET MC-50 MULTIPLEX LINK TEST

Station: GPA-TID Transmission path, from TID.

Gain Change <u>High Group</u>	-16dbm ref.	-14 dbm	-2dbm
Channel 1	7.0dbm	9.0dbm	11.5dbm
Channel 2	7.0dbm	9.0dbm	13.5dbm
Channel 3	7.0dbm	9.0dbm	12.5dbm
Channel 4	7.0dbm	9.0dbm	13.5dbm
Channel 5	7.0dbm	9.0dbm	11.5dbm
Channel 6	7.0 dbm	9.0dbm	12.5dbm
Channel 7	7.0dbm	9.0dbm	13.5dbm
Channel 8	7.0dbm	9.0dbm	13.0dbm
Channel 9	7.0dbm	9.0dbm	12.0dbm
Channel 10	<del>XXXXXXXXXXXX</del>	<del>XXXXXXXX</del>	Not tested
Channel 11	7.0dbm	9.0dbm	13.5dbm
Channel 12	7.0dbm	9.0dbm	11.5dbm

## Limits:

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input),
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input).

SHEET 4 OF 4

2-150



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GHOTransmission Path: From GPA Station to GHO StationMultiplex Group No. 1 (MRC-80)

EXPECTED

ACTUAL

## 1. GROUP INPUT LEVEL

Channel 1	<del>63 kc</del> 107 KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 2	<del>67 kc</del> 103 KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 3	<del>71 kc</del> 99 KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 4	<del>75 kc</del> 95 KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 5	<del>79 kc</del> 91 KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 6	<del>83 kc</del> 87 KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 7	<del>87 kc</del> 83 KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 8	<del>91 kc</del> 79 KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 9	<del>95 kc</del> 75 KC	(7.8 mv $\pm$ 0.8 mv)	<u>mv</u>
Channel 10	<del>99 kc</del> 71 KC	(7.8 mv $\pm$ 0.8 mv)	<u>mv</u>
Channel 11	<del>103 kc</del> 67 KC	(7.8 mv $\pm$ 0.8 mv)	<u>mv</u>
Channel 12	<del>107 kc</del> 63 KC	(7.8 mv $\pm$ 0.8 mv)	<u>mv</u>

## 2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

Channel 12	60.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4 mv</u>
Channel 211	64.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4 mv</u>
Channel 310	68.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4 mv</u>
Channel 49	72.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4 mv</u>
Channel 58	76.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4 mv</u>
Channel 67	80.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4 mv</u>
Channel 76	84.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4 mv</u>
Channel 85	88.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4 mv</u>
Channel 94	92.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>mv</u>
Channel 103	96.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>mv</u>
Channel 112	100.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>mv</u>
Channel 121	104.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>mv</u>

note: 0.4(66db  $\pm$  1db)

## 3. GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>13.7 mv</u>
A(V) Stations		
MW503A, LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>N/A mv</u>



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GHOTransmission Path From Station GPA To Station GHOMultiplex Group No. - 1 (MRC-80)

EXPECTED ACTUAL

## 4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv)13.9mv

MW-503A LOS (except GPA)

(15.5 mv  $\pm$  1.8 mv)

N/A mv

MW-503A LOS (GPA only)

(7.7 mv  $\pm$  1.0 mv)18.1mv

GRP OUT (TP-4)

(18.0 mv  $\pm$  1.0 mv)18mv

## 5. CHANNEL RECEIVE LEVELS

Channel 1

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 2

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 3

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 4

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 5

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 6

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 7

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 8

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 9

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 10

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 11

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 12

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

## 6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels

1 2 3 4 5 6 7 8 9 10 11 12

Frequency

300

7.6 4.9 7.0 4.8 4.9 6.9 4.9 5.1

dbm

400

S

7.7 6.3 7.2 6.5 6.3 6.7 6.3 6.4

dbm

600

S

7.5 7 7.3 7.5 7.3 7.2 7.4 7.5

dbm

750

B

7.1 7.4 7.1 7.3 7.0 7.1 7.2 7.2

dbm

1000

e

7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0

dbm

1250

o

7.1 6.8 7.1 7.2 7.0 7.0 7.2 7.2

dbm

w



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GHOTransmission Path: From Station GPA To Station GHOMultiplex Group No. 1 (MRC-80)

## CHANNEL FREQUENCY RESPONSE (continued)

Channels Frequency	EXPECTED					ACTUAL							
	1	2	3	4	5	6	7	8	9	10	11	12	
1500	7.5	6.8	7.5	7.75	7.0	7.4	7.6	7.6					dbm
1750	7.6	6.7	7.7	7.75	7.0	7.0	7.3	7.6					dbm
2000	7.6	6.8	7.6	7.5	7.0	6.3	7.0	7.4					dbm
2250	7.7	7.0	7.5	7.3	7.3	6.2	6.7	7.2					dbm
2400	7.5	7.2	7.7	7.5	7.6	6.7	6.9	7.2					dbm
2750	7.0	7.1	7.75	7.4	7.4	7.2	7.5	7.2					dbm
3000	6.6	6.3	7.4	6.8	6.8	7.0	7.5	6.8					dbm
3200	6.8	6.2	7.2	6.9	7.2	6.7	7.4	6.5					dbm
3300	7.2	6.3	7.0	7.2	7.1	6.3	6.8	6.3					dbm
3400	7.3	6.3	6.3	7.4	6.5	6.2	5.9	5.8					dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

300-399 cps (+ 0.75 db, -2.9 db)

400-599 cps (+ 0.75 db, -1.5 db)

600-2400 cps (+0.75 db, -0.75 db)

2401-3000 cps (+0.75 db, -1.5 db)

3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GHQTransmission Path; From GPA Station to GHQ StationMultiplex Group No. 1 MRC-80

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

Input Level

Channel 1

Channel 2

Channel 3

Channel 4

Channel 5

Channel 6

Channel 7

Channel 8

Channel 9

Channel 10

Channel 11

Channel 12

S  
e  
e  
B  
e  
l  
o  
w

	-16 dbm ref.	-14 dbm	-2dbm
Channel 1	7 dbm	8.8dbm	14 dbm
Channel 2	7 dbm	8.8dbm	13.8dbm
Channel 3	7 dbm	8.8dbm	13.1dbm
Channel 4	7 dbm	8.9dbm	13.9dbm
Channel 5	7 dbm	8.8dbm	13.9dbm
Channel 6	7 dbm	8.7dbm	13.9dbm
Channel 7	7 dbm	8.8dbm	13.1dbm
Channel 8	7 dbm	8.7dbm	13.7dbm
Channel 9	X dbm	X dbm	X dbm
Channel 10	X dbm	X dbm	X dbm
Channel 11	X dbm	X dbm	X dbm
Channel 12	X dbm	X dbm	X dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 7 JANUARY 1964TESTER J. G. QuinnSUPERVISOR W. T. MallonQUALITY ASSURANCE W. CarapGE-1A Ralph S. Krueger



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GHOTransmission Path: From GAG Station to GHO StationMultiplex Group No. 2

EXPECTED

ACTUAL

## 1. GROUP INPUT LEVEL

Channel 1	63 kc	(7.8 mv $\pm$ 0.8 mv)	<del>mv</del>
Channel 2	67 kc	(7.8 mv $\pm$ 0.8 mv)	<del>mv</del>
Channel 3	71 kc	(7.8 mv $\pm$ 0.8 mv)	<del>mv</del>
Channel 4	75 kc	(7.8 mv $\pm$ 0.8 mv)	<del>mv</del>
Channel 5	79 kc	(7.8 mv $\pm$ 0.8 mv)	7.8 mv
Channel 6	83 kc	(7.8 mv $\pm$ 0.8 mv)	7.8 mv
Channel 7	87 kc	(7.8 mv $\pm$ 0.8 mv)	7.8 mv
Channel 8	91 kc	(7.8 mv $\pm$ 0.8 mv)	7.8 mv
Channel 9	95 kc	(7.8 mv $\pm$ 0.8 mv)	<del>mv</del>
Channel 10	99 kc	(7.8 mv $\pm$ 0.8 mv)	<del>mv</del>
Channel 11	103 kc	(7.8 mv $\pm$ 0.8 mv)	<del>mv</del>
Channel 12	107 kc	(7.8 mv $\pm$ 0.8 mv)	<del>mv</del>

## 2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

Channel 1	60.125 kc	(.125 mv $\pm$ 0.02 mv)	<del>mv</del>
Channel 2	64.125 kc	(.125 mv $\pm$ 0.02 mv)	<del>mv</del>
Channel 3	68.125 kc	(.125 mv $\pm$ 0.02 mv)	<del>mv</del>
Channel 4	72.125 kc	(.125 mv $\pm$ 0.02 mv)	<del>mv</del>
Channel 5	76.125 kc	(.125 mv $\pm$ 0.02 mv)	0.4 mv
Channel 6	80.125 kc	(.125 mv $\pm$ 0.02 mv)	0.4 mv
Channel 7	84.125 kc	(.125 mv $\pm$ 0.02 mv)	0.4 mv
Channel 8	88.125 kc	(.125 mv $\pm$ 0.02 mv)	0.4 mv
Channel 9	92.125 kc	(.125 mv $\pm$ 0.02 mv)	<del>mv</del>
Channel 10	96.125 kc	(.125 mv $\pm$ 0.02 mv)	<del>mv</del>
Channel 11	100.125 kc	(.125 mv $\pm$ 0.02 mv)	<del>mv</del>
Channel 12	104.125 kc	(.125 mv $\pm$ 0.02 mv)	<del>mv</del>

66 db (0.4 mv)  $\pm$  1 db

## 3. GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	N/A mv
A(V) Stations		
MW503A LOS Stations	(4.9 mv $\pm$ 0.2 mv)	4.9 mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GHOTransmission Path From Station GAG To Station GHOMultiplex Group No. - 2

EXPECTED ACTUAL

## 4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv)N/A mv

MW-503A LOS

(15.5 mv  $\pm$  1.6 mv)15.5 mv

GRP OUT (TP-4)

(18. mv 1 mv)

18 mv

## 5. CHANNEL RECEIVE LEVELS

Channel 1

( $\pm 7$  dbm  $\pm 0.5$  db)~~dbm~~

Channel 2

( $\pm 7$  dbm  $\pm 0.5$  db)~~dbm~~

Channel 3

( $\pm 7$  dbm  $\pm 0.5$  db)~~dbm~~

Channel 4

( $\pm 7$  dbm  $\pm 0.5$  db)~~dbm~~

Channel 5

( $\pm 7$  dbm  $\pm 0.5$  db)7 dbm

Channel 6

( $\pm 7$  dbm  $\pm 0.5$  db)7 dbm

Channel 7

( $\pm 7$  dbm  $\pm 0.5$  db)7 dbm

Channel 8

( $\pm 7$  dbm  $\pm 0.5$  db)7 dbm

Channel 9

( $\pm 7$  dbm  $\pm 0.5$  db)~~dbm~~

Channel 10

( $\pm 7$  dbm  $\pm 0.5$  db)~~dbm~~

Channel 11

( $\pm 7$  dbm  $\pm 0.5$  db)~~dbm~~

Channel 12

( $\pm 7$  dbm  $\pm 0.5$  db)~~dbm~~

## 6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels

1 2 3 4 5 6 7 8 9 10 11 12

Frequency

300

4.6 5.3 7.4 5.0

dbm

400

S

6.3 7.5 7.5 6.2

dbm

600

e

7.4 7.4 7.1 7.1

dbm

750

B

7.3 7.3 7.1 7.1

dbm

1000

e

7.0 7.0 7.0 7.0

dbm

1250

l

7.1 7.0 7.0 7.0

dbm

w



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GHOTransmission Path: From Station GAG To Station GHOMultiplex Group No. 2

## CHANNEL FREQUENCY RESPONSE (continued)

Channels Frequency	EXPECTED				ACTUAL								
	1	2	3	4	5	6	7	8	9	10	11	12	
1500					7.4	7.1	7.1	7.4					dbm
1750					7.3	7.2	7.3	7.6					dbm
2000					7.0	6.9	7.0	7.4					dbm
2250					7.0	6.8	6.9	7.0					dbm
2400					7.2	6.9	7.0	7.0					dbm
2750					7.5	7.4	7.5	7.4					dbm
3000					7.1	6.9	7.4	7.4					dbm
3200					7.4	6.2	6.2	7.3					dbm
3300					7.4	6.9	6.9	7.0					dbm
3400					7.2	5.5	6.3	6.3					dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

- 300-399 cps ( $\pm$  0.75 db, -2.9 db)  
 400-599 cps (+ 0.75 db, -1.5 db)  
 600-2400 cps (+0.75 db, -0.75 db)  
 2401-3000 cps (+0.75 db, -1.5 db)  
 3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GHO  
Transmission Path; From GAG Station to GHO Station  
Multiplex Group No. 2

## 8. GAIN CHANGE

## INPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 1

Channel 2

Channel 3

Channel 4

Channel 5

Channel 6

Channel 7

Channel 8

Channel 9

Channel 10

Channel 11

Channel 12

S  
e  
e  
B  
e  
l  
o  
w

	-16 dbm ref.	-14 dbm	-2dbm
Channel 1	<del>dbm</del>	<del>dbm</del>	<del>dbm</del>
Channel 2	<del>dbm</del>	<del>dbm</del>	<del>dbm</del>
Channel 3	<del>dbm</del>	<del>dbm</del>	<del>dbm</del>
Channel 4	<del>dbm</del>	<del>dbm</del>	<del>dbm</del>
Channel 5	7 dbm	9 dbm	13 dbm
Channel 6	7 dbm	9 dbm	12.5 dbm
Channel 7	7 dbm	8.9 dbm	13.5 dbm
Channel 8	7 dbm	8.9 dbm	14.2 dbm
Channel 9	<del>dbm</del>	<del>dbm</del>	<del>dbm</del>
Channel 10	<del>dbm</del>	<del>dbm</del>	<del>dbm</del>
Channel 11	<del>dbm</del>	<del>dbm</del>	<del>dbm</del>
Channel 12	<del>dbm</del>	<del>dbm</del>	<del>dbm</del>

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 9 January 1964TESTER W. J. GraySUPERVISOR C. W. MahlenQUALITY ASSURANCE W. J. GrayGEEIA W. J. Gray



**FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST**

STATION GHOTransmission Path: From GPE Station to GHO StationMultiplex Group No. 2

		EXPECTED	ACTUAL
1.	GROUP INPUT LEVEL		
	Channel 1 1107.63 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 2 1036.7 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 3 997.1 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 4 957.5 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 5 79 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 6 83 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 7 87 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 8 91 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 9 95 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 10 99 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 11 103 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 12 107 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv

## 2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

Channel 1 1107.63, 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4</u> mv
Channel 2 1036.7, 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4</u> mv
Channel 3 997.1, 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4</u> mv
Channel 4 957.5, 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4</u> mv
Channel 5 76, 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4</u> mv
Channel 6 80, 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4</u> mv
Channel 7 84, 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4</u> mv
Channel 8 88, 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4</u> mv
Channel 9 92, 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4</u> mv
Channel 10 96, 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4</u> mv
Channel 11 100, 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4</u> mv
Channel 12 104, 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.4</u> mv

## 3. GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>N/A</u> mv
A(V) Stations		
MW503A LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>4.9</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GHOTransmission Path From Station GPE To Station GHOMultiplex Group No. - 2

EXPECTED      ACTUAL

## 4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv) N/A mv

MW-503A LOS

(15.5 mv  $\pm$  1.6 mv) 15.5 mv

GRP OUT (TP-4)

(18. mv  $\pm$  1 mv) 18.0 ~~N/A~~ mv

## 5. CHANNEL RECEIVE LEVELS

Channel 1	( $\pm 7$ dbm $\pm 0.5$ db)	<u>+7</u> dbm
Channel 2	( $\pm 7$ dbm $\pm 0.5$ db)	<u>+7</u> dbm
Channel 3	( $\pm 7$ dbm $\pm 0.5$ db)	<u>+7</u> dbm
Channel 4	( $\pm 7$ dbm $\pm 0.5$ db)	<u>+7</u> dbm
Channel 5	( $\pm 7$ dbm $\pm 0.5$ db)	<u>      </u> dbm
Channel 6	( $\pm 7$ dbm $\pm 0.5$ db)	<u>      </u> dbm
Channel 7	( $\pm 7$ dbm $\pm 0.5$ db)	<u>      </u> dbm
Channel 8	( $\pm 7$ dbm $\pm 0.5$ db)	<u>      </u> dbm
Channel 9	( $\pm 7$ dbm $\pm 0.5$ db)	<u>      </u> dbm
Channel 10	( $\pm 7$ dbm $\pm 0.5$ db)	<u>      </u> dbm
Channel 11	( $\pm 7$ dbm $\pm 0.5$ db)	<u>      </u> dbm
Channel 12	( $\pm 7$ dbm $\pm 0.5$ db)	<u>      </u> dbm

## 6. CHANNEL FREQUENCY RESPONSE

		EXPECTED				ACTUAL								
Channels		1	2	3	4	5	6	7	8	9	10	11	12	
Frequency														
300		<u>6.2</u>	<u>6.3</u>	<u>5.9</u>	<u>7.1</u>									dbm
400	S	<u>7.1</u>	<u>7.2</u>	<u>6.9</u>	<u>7.7</u>									dbm
600	e	<u>7.2</u>	<u>7.75</u>	<u>7.3</u>	<u>7.4</u>									dbm
750	B	<u>7.1</u>	<u>7.7</u>	<u>7.3</u>	<u>7.3</u>									dbm
1000	e	<u>7.0</u>	<u>7.0</u>	<u>7.0</u>	<u>7.0</u>									dbm
1250	l	<u>6.9</u>	<u>6.5</u>	<u>7.2</u>	<u>6.8</u>									dbm
	o													
	w													



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GHOTransmission Path: From Station GPE To Station GHOMultiplex Group No. 2

## CHANNEL FREQUENCY RESPONSE (continued)

Channels Frequency	EXPECTED				ACTUAL								
	1	2	3	4	5	6	7	8	9	10	11	12	
1500	7.0	6.6	7.2	7.2									dbm
1750	7.2	6.8	7.2	7.3									dbm
2000	7.2	6.4	7.1	6.9									dbm
2250	7.0	6.7	7.1	6.9									dbm
2400	7.1	6.3	7.2	6.8									dbm
2750	7.1	7.1	7.4	6.9									dbm
3000	7.1	6.9	7.1	6.2									dbm
3200	7.3	6.7	6.8	5.9									dbm
3300	7.5	6.7	6.5	6.2									dbm
3400	7.3	6.6	6.0	6.5									dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

- 300-399 cps (+ 0.75 db, -2.9 db)  
 400-599 cps (+ 0.75 db, -1.5 db)  
 600-2400 cps (+0.75 db, -0.75 db)  
 2401-3000 cps (+0.75 db, -1.5 db)  
 3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GHOTransmission Path; From GPE Station to GHO StationMultiplex Group No. 2

## 8. GAIN CHANGE

## INPUT LEVEL

## EXPECTED

## ACTUAL

Input Level

Channel 1

Channel 2

Channel 3

Channel 4

Channel 5

Channel 6

Channel 7

Channel 8

Channel 9

Channel 10

Channel 11

Channel 12

S  
e  
e  
B  
e  
l  
o  
w

-16 dbm ref.	-14 dbm	-2dbm
<u>7</u> dbm	<u>8.8</u> dbm	<u>12.2</u> dbm
<u>7</u> dbm	<u>8.8</u> dbm	<u>12.2</u> dbm
<u>7</u> dbm	<u>8.8</u> dbm	<u>14.2</u> dbm
<u>7</u> dbm	<u>8.8</u> dbm	<u>14.1</u> dbm
<u>dbm</u>	<u>dbm</u>	<u>dbm</u>
<u>dbm</u>	<u>dbm</u>	<u>dbm</u>
<u>dbm</u>	<u>dbm</u>	<u>dbm</u>
<u>dbm</u>	<u>dbm</u>	<u>dbm</u>
<u>dbm</u>	<u>dbm</u>	<u>dbm</u>
<u>dbm</u>	<u>dbm</u>	<u>dbm</u>
<u>dbm</u>	<u>dbm</u>	<u>dbm</u>
<u>dbm</u>	<u>dbm</u>	<u>dbm</u>

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 1-10 -1964TESTER J. QuinnSUPERVISOR Ed MahanQUALITY ASSURANCE W. C. [Signature]GEEIA [Signature]



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GIMTransmission Path: From GIM Station to GPA Station

Multiplex Group No. \_\_\_\_\_

EXPECTED

ACTUAL

## 1. GROUP INPUT LEVEL

Channel 1	63 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 2	67 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 3	71 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 4	75 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 5	79 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
Channel 6	83 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
Channel 7	87 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
Channel 8	91 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
Channel 9	95 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
Channel 10	99 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
Channel 11	103 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
Channel 12	107 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv

## 2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

Channel 1	60.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> <del>XX</del> db
Channel 2	64.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> <del>XX</del> db
Channel 3	68.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> <del>XX</del> db
Channel 4	72.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> <del>XX</del> db
Channel 5	76.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
Channel 6	80.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
Channel 7	84.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
Channel 8	88.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
Channel 9	92.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
Channel 10	96.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
Channel 11	100.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
Channel 12	104.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv

## 3. GROUP TRANSMIT LEVEL

-66db  $\pm$  1db

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>N/A</u> mv
A(V) Stations		
MWS03A LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>4.9</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GIMTransmission Path From Station GIM To Station GPA

Multiplex Group No. - \_\_\_\_\_

EXPECTED ACTUAL

## 4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv)N/A mv

MW-503A LOS (except GPA)

(15.5 mv  $\pm$  1.8 mv)15.5 mv

MW-503A LOS (GPA only)

(7.7 mv  $\pm$  1.0 mv)n/a mv

GRP OUT (TP-4)

(18.0 mv  $\pm$  1.0 mv)18 mv

## 5. CHANNEL RECEIVE LEVELS

Channel 1

( $\pm 7$  dbm  $\pm 0.5$  db)7 dbm

Channel 2

( $\pm 7$  dbm  $\pm 0.5$  db)7 dbm

Channel 3

( $\pm 7$  dbm  $\pm 0.5$  db)7 dbm

Channel 4

( $\pm 7$  dbm  $\pm 0.5$  db)7 dbm

Channel 5

( $\pm 7$  dbm  $\pm 0.5$  db)

\_\_\_\_\_ dbm

Channel 6

( $\pm 7$  dbm  $\pm 0.5$  db)

\_\_\_\_\_ dbm

Channel 7

( $\pm 7$  dbm  $\pm 0.5$  db)

\_\_\_\_\_ dbm

Channel 8

( $\pm 7$  dbm  $\pm 0.5$  db)

\_\_\_\_\_ dbm

Channel 9

( $\pm 7$  dbm  $\pm 0.5$  db)

\_\_\_\_\_ dbm

Channel 10

( $\pm 7$  dbm  $\pm 0.5$  db)

\_\_\_\_\_ dbm

Channel 11

( $\pm 7$  dbm  $\pm 0.5$  db)

\_\_\_\_\_ dbm

Channel 12

( $\pm 7$  dbm  $\pm 0.5$  db)

\_\_\_\_\_ dbm

## 6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels

1 2 3 4 5 6 7 8 9 10 11 12

Frequency

300

6.75 5 6.8 7

\_\_\_\_\_ dbm

400

S

6.9 6.5 6.9 7.3

\_\_\_\_\_ dbm

600

e

7.2 7.8 7.3 7.7

\_\_\_\_\_ dbm

750

B

7.3 7.5 7.2 7.5

\_\_\_\_\_ dbm

1000

e

7.0 7.0 7.0 7.0

\_\_\_\_\_ dbm

1250

0

6.6 6.7 7.0 7.0

\_\_\_\_\_ dbm

w



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GIMTransmission Path: From Station GIM To Station GPA

Multiplex Group No. \_\_\_\_\_

## CHANNEL FREQUENCY RESPONSE (continued)

Channels Frequency	EXPECTED				ACTUAL							
	1	2	3	4	5	6	7	8	9	10	11	12
1500	6.6	6.8	7.2	7.0								dbm
1750	6.8	6.8	7.4	7.0								dbm
2000	7.0	6.8	7.3	6.9								dbm
2250	7.0	6.9	7.2	6.8								dbm
2400	7.3	7.3	7.3	7.0								dbm
2750	7.4	7.7	7.3	7.0								dbm
3000	7.5	7.2	7.0	6.3								dbm
3200	7.4	7.0	6.5	6.5								dbm
3300	7.0	7.0	6.0	6.8								dbm
3400	6.4	7.0	5.3	7.0								dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

- 300-399 cps ( $\pm$  0.75 db, -2.9 db)  
 400-599 cps (+ 0.75 db, -1.5 db)  
 600-2400 cps (+0.75 db, -0.75 db)  
 2401-3000 cps (+0.75 db, -1.5 db)  
 3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GIMTransmission Path; From GIM Station to GPA Station

Multiplex Group No. \_\_\_\_\_

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

Input Level

Channel 1

Channel 2

Channel 3

Channel 4

Channel 5

Channel 6

Channel 7

Channel 8

Channel 9

Channel 10

Channel 11

Channel 12

S  
e  
e  
B  
e  
l  
o  
w

Channel	Expected (dbm)	Actual (dbm)
Channel 1	7	14.9
Channel 2	7	14.5
Channel 3	7	14
Channel 4	7	14.5
Channel 5		
Channel 6		
Channel 7		
Channel 8		
Channel 9		
Channel 10		
Channel 11		
Channel 12		

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 13 November 1963TESTER [Signature]SUPERVISOR [Signature]QUALITY ASSURANCE [Signature]

GEBIA



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION G T ATransmission Path: From G T A Station to G P A Station

Multiplex Group No. \_\_\_\_\_

EXPECTED

ACTUAL

## 1. GROUP INPUT LEVEL

Channel 1	63 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
Channel 2	67 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
Channel 3	71 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
Channel 4	75 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
Channel 5	79 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 6	83 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 7	87 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 8	91 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 9	95 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
Channel 10	99 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
Channel 11	103 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
Channel 12	107 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv

## 2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

Channel 1	60.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
Channel 2	64.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
Channel 3	68.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
Channel 4	72.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
Channel 5	76.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66db</u> <del>mv</del>
Channel 6	80.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66db</u> <del>mv</del>
Channel 7	84.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66db</u> <del>mv</del>
Channel 8	88.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66db</u> <del>mv</del>
Channel 9	92.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
Channel 10	96.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
Channel 11	100.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
Channel 12	104.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv

-66db - 1db

## 3. GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	_____ mv
A(V) Stations		
MW503A LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>4.9</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION G T ATransmission Path From Station G T A To Station G P A

Multiplex Group No. - \_\_\_\_\_

EXPECTED ACTUAL

## 4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv)N/A mv

MW-503A LOS (except GPA)

(15.5 mv  $\pm$  1.8 mv)15.5 mv

MW-503A LOS (GPA only)

(7.7 mv  $\pm$  1.0 mv)7.7 mv

GRP OUT (TP-4)

(18.0 mv  $\pm$  1.0 mv)18 mv

## 5. CHANNEL RECEIVE LEVELS

Channel 1

( $\pm$ 7 dbm  $\pm$ 0.5 db)

\_\_\_\_\_ dbm

Channel 2

( $\pm$ 7 dbm  $\pm$ 0.5 db)

\_\_\_\_\_ dbm

Channel 3

( $\pm$ 7 dbm  $\pm$ 0.5 db)

\_\_\_\_\_ dbm

Channel 4

( $\pm$ 7 dbm  $\pm$ 0.5 db)

\_\_\_\_\_ dbm

Channel 5

( $\pm$ 7 dbm  $\pm$ 0.5 db)

\_\_\_\_\_ dbm

Channel 6

( $\pm$ 7 dbm  $\pm$ 0.5 db)4.7 dbm

Channel 7

( $\pm$ 7 dbm  $\pm$ 0.5 db)4.7 dbm

Channel 8

( $\pm$ 7 dbm  $\pm$ 0.5 db)4.7 dbm

Channel 9

( $\pm$ 7 dbm  $\pm$ 0.5 db)4.7 dbm

Channel 10

( $\pm$ 7 dbm  $\pm$ 0.5 db)

\_\_\_\_\_ dbm

Channel 11

( $\pm$ 7 dbm  $\pm$ 0.5 db)

\_\_\_\_\_ dbm

Channel 12

( $\pm$ 7 dbm  $\pm$ 0.5 db)

\_\_\_\_\_ dbm

## 6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels

1 2 3 4 5 6 7 8 9 10 11 12

Frequency

300

7.2 6.9 7.3 4.9

\_\_\_\_\_ dbm

400

S

7.3 7.3 7.2 6.3

\_\_\_\_\_ dbm

600

e

7.6 7.4 7.5 7.3

\_\_\_\_\_ dbm

750

B

7.5 7.2 7.3 7.1

\_\_\_\_\_ dbm

1000

e

7.0 7.0 7.0 7.0

\_\_\_\_\_ dbm

1250

o

6.9 6.9 6.9 6.9

\_\_\_\_\_ dbm

w



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION G T ATransmission Path: From Station G T A To Station G P A

Multiplex Group No. \_\_\_\_\_

## CHANNEL FREQUENCY RESPONSE (continued)

Channels Frequency	EXPECTED				ACTUAL								
	1	2	3	4	5	6	7	8	9	10	11	12	
1500	_____	_____	_____	_____	7.2	7.1	7.2	7.2	_____	_____	_____	_____	dbm
1750	_____	_____	_____	_____	7.1	7.0	7.2	7.2	_____	_____	_____	_____	dbm
2000	_____	_____	_____	_____	6.9	6.9	7.2	7.2	_____	_____	_____	_____	dbm
2250	_____	_____	_____	_____	7.0	7.0	7.1	7.4	_____	_____	_____	_____	dbm
2400	_____	_____	_____	_____	7.1	7.3	7.3	7.5	_____	_____	_____	_____	dbm
2750	_____	_____	_____	_____	6.8	7.5	7.7	7.5	_____	_____	_____	_____	dbm
3000	_____	_____	_____	_____	6.3	7.3	7.5	7.0	_____	_____	_____	_____	dbm
3200	_____	_____	_____	_____	6.3	7.2	7.5	6.6	_____	_____	_____	_____	dbm
3300	_____	_____	_____	_____	6.5	7.0	7.1	6.3	_____	_____	_____	_____	dbm
3400	_____	_____	_____	_____	6.0	6.6	6.5	5.7	_____	_____	_____	_____	dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

300-399 cps (+ 0.75 db, -2.9 db)

400-599 cps (+ 0.75 db, -1.5 db)

600-2400 cps (+0.75 db, -0.75 db)

2401-3000 cps (+0.75 db, -1.5 db)

3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION G T ATransmission Path: From G T A Station to G P A Station

Multiplex Group No. \_\_\_\_\_

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

Input Level

Channel 05Channel 06Channel 07Channel 08Channel 9Channel 0Channel 7Channel 8Channel 9Channel 10Channel 11Channel 12S  
e  
e  
B  
e  
l  
o  
w

	-16 dbm ref.	-14 dbm	-2dbm
Channel 05	7 dbm	8.8 dbm	12.8 dbm
Channel 06	7 dbm	8.8 dbm	12.5 dbm
Channel 07	7 dbm	8.8 dbm	11.9 dbm
Channel 08	7 dbm	8.8 dbm	11.8 dbm
Channel 9	dbm	dbm	dbm
Channel 0	dbm	dbm	dbm
Channel 7	dbm	dbm	dbm
Channel 8	dbm	dbm	dbm
Channel 9	dbm	dbm	dbm
Channel 10	dbm	dbm	dbm
Channel 11	dbm	dbm	dbm
Channel 12	dbm	dbm	dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 11 November 1963TESTER Mr. S. RaySUPERVISOR SB BaccettiQUALITY ASSURANCE J. Boucher

GEEIA

Sheet 4 of 4

Ralph S. Buzen

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FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GAGTransmission Path: From GAG Station to GHO Station

Multiplex Group No. \_\_\_\_\_

EXPECTED

ACTUAL

## 1. GROUP INPUT LEVEL

Channel	12	63 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
Channel	11	67 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
Channel	10	71 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
Channel	9	75 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
Channel	8	79 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel	7	83 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel	6	87 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel	5	91 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel	4	95 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
Channel	3	99 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
Channel	2	103 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv
Channel	1	107 kc	(7.8 mv $\pm$ 0.8 mv)	_____ mv

## 2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

Channel	12	60.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
Channel	11	64.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
Channel	10	68.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
Channel	9	72.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
Channel	8	76.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> <del>XXX</del> db
Channel	7	80.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> <del>XXX</del> db
Channel	6	84.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> <del>XXX</del> db
Channel	5	88.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> <del>XXX</del> db
Channel	4	92.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
Channel	3	96.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
Channel	2	100.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv
Channel	1	104.125 kc	(.125 mv $\pm$ 0.02 mv)	_____ mv

-66db (0.04mv)  $\pm$  1db

## 3. GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>N/A</u> mv
A(V) Stations		
MW503A LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>4.9</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GAGTransmission Path From Station GAG To Station GHO

Multiplex Group No. - \_\_\_\_\_

EXPECTED ACTUAL

## 4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv)N/A mv

MW-503A LOS (except GPA)

(15.5 mv  $\pm$  1.8 mv)15.5 mv

MW-503A LOS (GPA only)

(7.7 mv  $\pm$  1.0 mv)N/A mv

GRP OUT (TP-4)

(18.0 mv  $\pm$  1.0 mv)18 mv

## 5. CHANNEL RECEIVE LEVELS

Channel 1

( $\pm$ 7 dbm  $\pm$ 0.5 db)

\_\_\_\_\_ dbm

Channel 2

( $\pm$ 7 dbm  $\pm$ 0.5 db)

\_\_\_\_\_ dbm

Channel 3

( $\pm$ 7 dbm  $\pm$ 0.5 db)

\_\_\_\_\_ dbm

Channel 4

( $\pm$ 7 dbm  $\pm$ 0.5 db)

\_\_\_\_\_ dbm

Channel 5

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 6

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 7

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 8

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 9

( $\pm$ 7 dbm  $\pm$ 0.5 db)

\_\_\_\_\_ dbm

Channel 10

( $\pm$ 7 dbm  $\pm$ 0.5 db)

\_\_\_\_\_ dbm

Channel 11

( $\pm$ 7 dbm  $\pm$ 0.5 db)

\_\_\_\_\_ dbm

Channel 12

( $\pm$ 7 dbm  $\pm$ 0.5 db)

\_\_\_\_\_ dbm

## 6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels

1 2 3 4 5 6 7 8 9 10 11 12

Frequency

300

7.0 7.0 7.5 5.3

\_\_\_\_\_ dbm

400

S

6.9 7.5 7.5 6.5

\_\_\_\_\_ dbm

600

e

7.0 7.5 7.4 7.5

\_\_\_\_\_ dbm

750

B

7.0 7.4 7.4 7.5

\_\_\_\_\_ dbm

1000

e

7.0 7.0 7.0 7.0

\_\_\_\_\_ dbm

1250

l

6.9 7.0 7.0 7.0

\_\_\_\_\_ dbm

w



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GAGTransmission Path: From Station GAG To Station GHO

Multiplex Group No. \_\_\_\_\_

## CHANNEL FREQUENCY RESPONSE (continued)

Channels Frequency	EXPECTED				ACTUAL								
	1	2	3	4	5	6	7	8	9	10	11	12	
1500	_____	_____	_____	_____	7.0	7.2	7.0	7.1	_____	_____	_____	_____	dbm
1750	_____	_____	_____	_____	7.1	7.0	7.0	7.0	_____	_____	_____	_____	dbm
2000	_____	_____	_____	_____	6.9	6.8	6.6	6.6	_____	_____	_____	_____	dbm
2250	_____	_____	_____	_____	6.9	6.6	6.5	6.5	_____	_____	_____	_____	dbm
2400	_____	_____	_____	_____	7.3	6.6	6.5	6.5	_____	_____	_____	_____	dbm
2750	_____	_____	_____	_____	7.3	7.0	6.5	6.5	_____	_____	_____	_____	dbm
3000	_____	_____	_____	_____	6.6	6.5	6.5	6.5	_____	_____	_____	_____	dbm
3200	_____	_____	_____	_____	6.5	6.2	6.4	6.3	_____	_____	_____	_____	dbm
3300	_____	_____	_____	_____	6.5	5.3	5.8	5.6	_____	_____	_____	_____	dbm
3400	_____	_____	_____	_____	6.5	5.7	5.5	5.4	_____	_____	_____	_____	dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

300-399 cps (+ 0.75 db, -2.9 db)

400-599 cps (+ 0.75 db, -1.5 db)

600-2400 cps (+0.75 db, -0.75 db)

2401-3000 cps (+0.75 db, -1.5 db)

3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GAGTransmission Path; From GAG Station to GHO Station

Multiplex Group No. \_\_\_\_\_

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

Input Level

Channel 1

Channel 2

Channel 3

Channel 4

Channel 5

Channel 6

Channel 7

Channel 8

Channel 9

Channel 10

Channel 11

Channel 12

S  
e  
e  
B  
e  
l  
o  
w

	-16 dbm ref.	-14 dbm	-2dbm
Channel 1	dbm	dbm	dbm
Channel 2	dbm	dbm	dbm
Channel 3	dbm	dbm	dbm
Channel 4	dbm	dbm	dbm
Channel 5	+7.0 dbm	8.9 dbm	14 dbm
Channel 6	+7.0 dbm	8.8 dbm	13.6dbm
Channel 7	+7.0 dbm	8.9 dbm	14.4dbm
Channel 8	+7.0 dbm	8.9 dbm	13 dbm
Channel 9	dbm	dbm	dbm
Channel 10	dbm	dbm	dbm
Channel 11	dbm	dbm	dbm
Channel 12	dbm	dbm	dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 9 January 1964TESTER James J. SmithSUPERVISOR Rudolf C. HerbertQUALITY ASSURANCE William R. WolfGEEIA Ralph L. Kreger



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GPE  
Transmission Path: From GPE Station to GHO Station  
Multiplex Group No. 1

## EXPECTED

## ACTUAL

## 1. GROUP INPUT LEVEL

Channel 1/2	63 kc	(7.8 mv $\pm$ 0.8 mv)	<u>      </u> mv
Channel 2/11	67 kc	(7.8 mv $\pm$ 0.8 mv)	<u>      </u> mv
Channel 3/10	71 kc	(7.8 mv $\pm$ 0.8 mv)	<u>      </u> mv
Channel 4/9	75 kc	(7.8 mv $\pm$ 0.8 mv)	<u>      </u> mv
Channel 5/8	79 kc	(7.8 mv $\pm$ 0.8 mv)	<u>      </u> mv
Channel 6/7	83 kc	(7.8 mv $\pm$ 0.8 mv)	<u>      </u> mv
Channel 7/6	87 kc	(7.8 mv $\pm$ 0.8 mv)	<u>      </u> mv
Channel 8/5	91 kc	(7.8 mv $\pm$ 0.8 mv)	<u>      </u> mv
Channel 9/4	95 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 10/3	99 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 11/2	103 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 12/1	107 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv

## 2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

Channel 1/2	60.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>      </u> mv
Channel 2/11	64.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>      </u> mv
Channel 3/10	68.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>      </u> mv
Channel 4/9	72.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>      </u> mv
Channel 5/8	76.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>      </u> mv
Channel 6/7	80.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>      </u> mv
Channel 7/6	84.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>      </u> mv
Channel 8/5	88.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>      </u> mv
Channel 9/4	92.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv db
Channel 10/3	96.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv db
Channel 11/2	100.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv db
Channel 12/1	104.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv db

-66  $\pm$  1db (.4mv)

## 3. GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>N/A</u> mv
A(V) Stations		
MW503A, LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>4.9</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GPETransmission Path From Station GPE To Station GHOMultiplex Group No. - 1

EXPECTED ACTUAL

## 4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv)N/A mv

MW-503A LOS (except GPA)

(15.5 mv  $\pm$  1.8 mv)15.5 mv

MW-503A LOS (GPA only)

(7.7 mv  $\pm$  1.0 mv)N/A mv

GRP OUT (TP-4)

(18.0 mv  $\pm$  1.0 mv)10 mv

## 5. CHANNEL RECEIVE LEVELS

Channel 1

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm

Channel 2

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm

Channel 3

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm

Channel 4

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm

Channel 5

( $\pm 7$  dbm  $\pm 0.5$  db)

\_\_\_\_\_ dbm

Channel 6

( $\pm 7$  dbm  $\pm 0.5$  db)

\_\_\_\_\_ dbm

Channel 7

( $\pm 7$  dbm  $\pm 0.5$  db)

\_\_\_\_\_ dbm

Channel 8

( $\pm 7$  dbm  $\pm 0.5$  db)

\_\_\_\_\_ dbm

Channel 9

( $\pm 7$  dbm  $\pm 0.5$  db)

\_\_\_\_\_ dbm

Channel 10

( $\pm 7$  dbm  $\pm 0.5$  db)

\_\_\_\_\_ dbm

Channel 11

( $\pm 7$  dbm  $\pm 0.5$  db)

\_\_\_\_\_ dbm

Channel 12

( $\pm 7$  dbm  $\pm 0.5$  db)

\_\_\_\_\_ dbm

## 6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels

1 2 3 4 5 6 7 8 9 10 11 12

Frequency

300

6.5 7.4 4.6 5.6 \_\_\_\_\_

\_\_\_\_\_ dbm

400

S

6.9 7.3 6.5 6.5 \_\_\_\_\_

\_\_\_\_\_ dbm

600

e

7.3 7.4 7.4 7.5 \_\_\_\_\_

\_\_\_\_\_ dbm

750

B

7.0 7.3 7.4 7.5 \_\_\_\_\_

\_\_\_\_\_ dbm

1000

e

+7.0 +7.0 +7.0 +7.0 \_\_\_\_\_

\_\_\_\_\_ dbm

1250

0

6.8 7.0 7.0 7.0 \_\_\_\_\_

\_\_\_\_\_ dbm

w



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GPETransmission Path: From Station GPE To Station GHOMultiplex Group No. 1

## CHANNEL FREQUENCY RESPONSE (continued)

Channels	EXPECTED					ACTUAL							
	1	2	3	4	5	6	7	8	9	10	11	12	
Frequency													
1500	6.9	7.2	6.8	7.0									dbm
1750	7.2	7.2	6.9	7.0									dbm
2000	7.2	7.1	6.7	6.9									dbm
2250	7.0	7.3	7.0	6.7									dbm
2400	6.9	7.4	7.4	6.8									dbm
2750	6.7	7.2	7.5	6.5									dbm
3000	6.7	6.6	7.4	5.7									dbm
3200	7.2	6.1	7.0	5.7									dbm
3300	7.3	6.1	6.3	6.1									dbm
3400	6.5	6.4	6.4	6.4									dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

- 300-399 cps (+ 0.75 db, -2.9 db)  
 400-599 cps (+ 0.75 db, -1.5 db)  
 600-2400 cps (+0.75 db, -0.75 db)  
 2401-3000 cps (+0.75 db, -1.5 db)  
 3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION GPETransmission Path; From GPE Station to GHO StationMultiplex Group No. 1

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 1

Channel 2

Channel 3

Channel 4

Channel 5

Channel 6

Channel 7

Channel 8

Channel 9

Channel 10

Channel 11

Channel 12

S  
e  
e  
B  
e  
l  
o  
w

EXPECTED	ACTUAL
-16 dbm ref.	-14 dbm -2dbm
+7 dbm	8.8 dbm 7.1 dbm
+7 dbm	8.7 dbm 7.1 dbm
+7 dbm	8.7 dbm 13.2 dbm
+7 dbm	8.9 dbm 11.1 dbm
dbm	dbm dbm
dbm	dbm dbm
dbm	dbm dbm
dbm	dbm dbm
dbm	dbm dbm
dbm	dbm dbm
dbm	dbm dbm
dbm	dbm dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 10 Jan 64TESTER Robert AllenSUPERVISOR George C. McQUALITY ASSURANCE William R. KatzGEEIA Ralph S. Kruger



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION T ID

Transmission Path: From TID Station to GPA Station

Multiplex Group No. 2 Low Group

		EXPECTED	ACTUAL
1.	GROUP INPUT LEVEL		
	Channel 1	107KC	
	Channel 2	103KC	
	Channel 3	99KC	
	Channel 4	95KC	
	Channel 5	91KC	
	Channel 6	87KC	
	Channel 7	83KC	
	Channel 8	79KC	
	Channel 9	75KC	
	Channel 10	71KC	
	Channel 11	67KC	
	Channel 12	63KC	
		(7.8 mv $\pm$ 0.8 mv)	7.8 mv
		(7.8 mv $\pm$ 0.8 mv)	7.8 mv
		(7.8 mv $\pm$ 0.8 mv)	7.8 mv
		(7.8 mv $\pm$ 0.8 mv)	7.8 mv
		(7.8 mv $\pm$ 0.8 mv)	7.8 mv
		(7.8 mv $\pm$ 0.8 mv)	7.8 mv
		(7.8 mv $\pm$ 0.8 mv)	7.8 mv
		(7.8 mv $\pm$ 0.8 mv)	7.8 mv
		(7.8 mv $\pm$ 0.8 mv)	7.8 mv
		(7.8 mv $\pm$ 0.8 mv)	7.8 mv
		(7.8 mv $\pm$ 0.8 mv)	7.8 mv

2.	CHANNEL SIGNALLING LEVEL AT GROUP INPUT				
104.175KC	Channel 1	<del>107KC</del>	(.125 mv $\pm$ 0.02 mv)	-66 dbm	
100.175KC	Channel 2	<del>103KC</del>	(.125 mv $\pm$ 0.02 mv)	-66dbm	
96.175KC	Channel 3	<del>99KC</del>	(.125 mv $\pm$ 0.02 mv)	-66dbm	
92.175KC	Channel 4	<del>95KC</del>	(.125 mv $\pm$ 0.02 mv)	-66dbm	
88.175KC	Channel 5	<del>91KC</del>	(.125 mv $\pm$ 0.02 mv)	-66dbm	
84.175KC	Channel 6	<del>87KC</del>	(.125 mv $\pm$ 0.02 mv)	-66dbm	
80.175KC	Channel 7	<del>83KC</del>	(.125 mv $\pm$ 0.02 mv)	-66dbm	
76.175KC	Channel 8	<del>79KC</del>	(.125 mv $\pm$ 0.02 mv)	-66dbm	
72.175KC	Channel 9	<del>75KC</del>	(.125 mv $\pm$ 0.02 mv)	-66dbm	
68.175KC	Channel 10	<del>71KC</del>	(.125 mv $\pm$ 0.02 mv)	-66dbm	
64.175KC	Channel 11	<del>100KC</del>	(.125 mv $\pm$ 0.02 mv)	-66dbm	
60.175KC	Channel 12	<del>104KC</del>	(.125 mv $\pm$ 0.02 mv)	-66dbm	

## GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	13.7 mv
A(V) Stations		
MW503A LOS Stations	(1.9 mv $\pm$ 0.2 mv)	N/A mv

SPEC CHANGED TO  
-66db  $\pm$  1db (.4mv)



BRII/42

FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TIDTransmission Path From Station TID To Station GPAMultiplex Group No. - 2 Low Group

EXPECTED ACTUAL

## 4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv)13.0 mv

MW-503A LOS (except GPA)

(15.5 mv  $\pm$  1.8 mv)N/A mv

MW-503A LOS (GPA only)

(7.7 mv  $\pm$  1.0 mv)N/A mv

GRP OUT (TP-4)

(18.0 mv  $\pm$  1.0 mv)18.0 mv

## 5. CHANNEL RECEIVE LEVELS

Channel 1

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 2

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 3

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 4

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 5

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 6

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 7

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 8

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 9

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 10

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 11

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 12

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

## 6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels

1 2 3 4 5 6 7 8 9 10 11 12

Frequency

300

5.6 7.6 7.5 6.0 7.3 7.6 7.7 6.6 5.2 6.7 6.5 5.0 dbm

400

S

6.2 7.5 7.5 6.1 6.9 6.9 7.2 6.5 6.2 6.3 6.3 6.8 dbm

600

S

7.1 7.4 7.5 7.2 7.3 6.8 7.3 7.3 7.2 7.7 7.2 7.2 dbm

750

B

7.1 7.2 7.2 7.2 7.2 6.9 7.2 7.2 7.2 7.4 7.2 7.2 dbm

1000

e

7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 dbm

1250

O

7.1 6.9 7.1 6.8 7.0 7.1 6.8 6.5 6.5 6.2 6.3 6.9 dbm

W



**FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST**

STATION TIDTransmission Path: From Station T ID To Station GPAMultiplex Group No. 2 Low Group**CHANNEL FREQUENCY RESPONSE (continued)**

Channels Frequency	EXPECTED					ACTUAL								
	1	2	3	4	5	6	7	8	9	10	11	12		
1500	<u>7.6</u>	<u>7.2</u>	<u>7.6</u>	<u>7.2</u>	<u>7.2</u>	<u>7.5</u>	<u>7.2</u>	<u>7.2</u>	<u>7.6</u>	<u>7.5</u>	<u>7.1</u>	<u>7.2</u>	dbm	
1750	<u>7.7</u>	<u>7.2</u>	<u>7.7</u>	<u>7.5</u>	<u>7.2</u>	<u>7.2</u>	<u>7.2</u>	<u>7.4</u>	<u>7.7</u>	<u>7.3</u>	<u>6.9</u>	<u>7.2</u>	dbm	
2000	<u>7.7</u>	<u>7.4</u>	<u>7.7</u>	<u>7.3</u>	<u>7.0</u>	<u>7.2</u>	<u>7.1</u>	<u>7.4</u>	<u>7.7</u>	<u>7.5</u>	<u>6.8</u>	<u>7.3</u>	dbm	
2250	<u>7.6</u>	<u>7.7</u>	<u>7.7</u>	<u>7.2</u>	<u>6.9</u>	<u>7.1</u>	<u>7.0</u>	<u>7.3</u>	<u>7.5</u>	<u>7.4</u>	<u>6.8</u>	<u>7.6</u>	dbm	
2400	<u>7.6</u>	<u>7.3</u>	<u>7.6</u>	<u>7.2</u>	<u>7.0</u>	<u>7.2</u>	<u>7.2</u>	<u>7.5</u>	<u>7.6</u>	<u>7.5</u>	<u>6.8</u>	<u>7.5</u>	dbm	
2750	<u>7.2</u>	<u>7.2</u>	<u>7.4</u>	<u>6.8</u>	<u>6.8</u>	<u>6.9</u>	<u>7.2</u>	<u>7.3</u>	<u>7.5</u>	<u>7.2</u>	<u>6.7</u>	<u>7.3</u>	dbm	
3000	<u>7.2</u>	<u>6.9</u>	<u>7.0</u>	<u>6.2</u>	<u>6.5</u>	<u>6.2</u>	<u>6.8</u>	<u>6.4</u>	<u>6.8</u>	<u>6.2</u>	<u>6.6</u>	<u>7.2</u>	dbm	
3200	<u>7.2</u>	<u>5.8</u>	<u>6.2</u>	<u>6.0</u>	<u>6.8</u>	<u>6.2</u>	<u>6.0</u>	<u>5.2</u>	<u>7.1</u>	<u>5.7</u>	<u>5.7</u>	<u>6.3</u>	dbm	
3300	<u>7.2</u>	<u>5.5</u>	<u>6.2</u>	<u>6.3</u>	<u>7.2</u>	<u>5.8</u>	<u>5.5</u>	<u>4.5</u>	<u>7.2</u>	<u>5.8</u>	<u>5.7</u>	<u>5.3</u>	dbm	
3400	<u>6.6</u>	<u>5.1</u>	<u>6.9</u>	<u>6.6</u>	<u>6.3</u>	<u>5.5</u>	<u>4.8</u>	<u>4.4</u>	<u>7.0</u>	<u>6.2</u>	<u>5.3</u>	<u>4.6</u>	dbm	

**LIMITS WITH RESPECT TO 1 KC LEVEL**

- 300-399 cps (+ 0.75 db, -2.9 db)  
 400-599 cps (+ 0.75 db, -1.5 db)  
 600-2400 cps (+0.75 db, -0.75 db)  
 2401-3000 cps (+0.75 db, -1.5 db)  
 3001-3400 cps (+0.75 db, -2.9 db)

**NOTE:** If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TIDTransmission Path; From TID Station to GPA StationMultiplex Group No. 2 Low Group

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 1

S

-16 dbm ref. -14 dbm -2dbm

Channel 2

e

+7.0 dbm +8.8 dbm +12.0 dbm

Channel 3

e

+7.0 dbm +8.8 dbm +14.2 dbm

Channel 4

B

+7.0 dbm +8.8 dbm +13.2 dbm

Channel 5

e

+7.0 dbm +8.8 dbm +12.5 dbm

Channel 6

l

+7.0 dbm +8.7 dbm +14.2 dbm

Channel 7

o

+7.0 dbm +8.8 dbm +13.5 dbm

Channel 8

w

+7.0 dbm +8.8 dbm +12.1 dbm

Channel 9

+7.0 dbm +8.8 dbm +12.2 dbm

Channel 10

+7.0 dbm +8.8 dbm +12.6 dbm

Channel 11

+7.0 dbm +8.8 dbm +13.1 dbm

Channel 12

+7.0 dbm +8.8 dbm +13.5 dbm+7.0 dbm +8.8 dbm +12.2 dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 27 November 1963TESTER J. QuinnSUPERVISOR R. E. CarterQUALITY ASSURANCE R. E. CarterGEEIA Ralph L. Heger



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION T.I.D. T.I.D.Transmission Path: From T.I.D. Station to G.P.A. StationMultiplex Group No. High Group

			EXPECTED	ACTUAL
1.	GROUP INPUT LEVEL			
	Channel 1	<del>68</del> kc 107 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 2	<del>67</del> kc 103 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 3	<del>71</del> kc 99 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 4	<del>75</del> kc 95 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 5	<del>79</del> kc 91 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 6	<del>83</del> kc 87 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 7	<del>87</del> kc 83 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 8	<del>91</del> kc 79 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 9	<del>95</del> kc 75 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 10	<del>99</del> kc 71 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 11	<del>103</del> kc 67 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 12	<del>107</del> kc 63 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv

## 2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

104.175 kc	Channel 1	<del>60</del> 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv db
103.103 kc	Channel 2	<del>64</del> 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv
96.175 kc	Channel 3	<del>68</del> 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv db
92.175 kc	Channel 4	<del>72</del> 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv db
88.175 kc	Channel 5	<del>76</del> 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv db
84.175 kc	Channel 6	<del>80</del> 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv db
80.175 kc	Channel 7	<del>84</del> 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv db
76.175 kc	Channel 8	<del>88</del> 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv db
72.175 kc	Channel 9	<del>92</del> 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv db
68.175 kc	Channel 10	<del>96</del> 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv db
64.175 kc	Channel 11	<del>100</del> 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv db
60.175 kc	Channel 12	<del>104</del> 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66</u> mv db

SPEC CHANGED TO  
-66 db  $\pm$  1 db (C. 4mv)

## 3. GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>13.7</u> mv
A(V) Stations		
MW503A, LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>N/A</u> mv



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FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
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MC-50 MULTIPLEX LINK TEST

STATION T.I.D.Transmission Path From Station T.I.D. To Station G.P.A.Multiplex Group No. - High Group

EXPECTED ACTUAL

## 4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv)13mv

MW-503A LOS (except GPA)

(15.5 mv  $\pm$  1.8 mv)

n/a mv

MW-503A LOS (GPA only)

(7.7 mv  $\pm$  1.0 mv)

n/a mv

GRP OUT (TP-4)

(18.0 mv  $\pm$  1.0 mv)18mv

## 5. CHANNEL RECEIVE LEVELS

Channel 1

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 2

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 3

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 4

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 5

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 6

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 7

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 8

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 9

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 10

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 11

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 12

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

## 6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels 1 2 3 4 5 6 7 8 9 10 11 12

Frequency

300

300	7.2	7.2	6.8	6.3	7.1	6.3	6.7	7.2	6.5	7.0	7.5	7.1	dbm
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

400

400	6.9	7.0	6.6	6.5	6.8	6.1	6.3	6.8	6.4	7.5	6.8	7.1	dbm
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

600

600	6.8	7.2	7.2	7.6	7.4	7.1	7.1	7.2	7.2	7.7	7.1	7.0	dbm
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

750

750	6.8	7.2	7.2	7.5	7.2	7.3	7.1	7.2	7.1	7.3	7.0	6.9	dbm
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

1000

1000	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	dbm
------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

1250

1250	6.8	6.7	6.9	6.7	7.2	7.2	7.0	6.9	6.9	6.8	7.1	6.9	dbm
------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----



FEDERAL ELECTRIC CORPORATION  
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STATION

T.I.D.Transmission Path: From Station T.I.D. To Station G.P.A.Multiplex Group No. High Group

## CHANNEL FREQUENCY RESPONSE (continued)

EXPECTED

ACTUAL

Channels

1 2 3 4 5 6 7 8 9 10 11 12

Frequency

1500	<u>7.1</u>	<u>7.0</u>	<u>7.2</u>	<u>7.1</u>	<u>7.7</u>	<u>7.3</u>	<u>7.2</u>	<u>7.2</u>	<u>7.0</u>	<u>7.2</u>	<u>7.3</u>	<u>7.0</u>	dbm
1750	<u>6.9</u>	<u>6.9</u>	<u>7.2</u>	<u>7.2</u>	<u>7.4</u>	<u>7.0</u>	<u>7.1</u>	<u>7.0</u>	<u>7.0</u>	<u>7.2</u>	<u>7.2</u>	<u>6.8</u>	dbm
2000	<u>7.0</u>	<u>7.0</u>	<u>7.3</u>	<u>7.3</u>	<u>7.4</u>	<u>6.5</u>	<u>7.0</u>	<u>7.1</u>	<u>6.9</u>	<u>7.2</u>	<u>6.8</u>	<u>7.0</u>	dbm
2250	<u>6.8</u>	<u>7.2</u>	<u>7.3</u>	<u>7.2</u>	<u>7.4</u>	<u>6.3</u>	<u>6.9</u>	<u>7.1</u>	<u>6.8</u>	<u>7.1</u>	<u>6.7</u>	<u>7.1</u>	dbm
2400	<u>6.6</u>	<u>7.3</u>	<u>7.5</u>	<u>7.4</u>	<u>7.7</u>	<u>6.3</u>	<u>6.9</u>	<u>7.3</u>	<u>6.8</u>	<u>7.0</u>	<u>6.8</u>	<u>7.2</u>	dbm
2750	<u>6.2</u>	<u>7.0</u>	<u>7.7</u>	<u>7.0</u>	<u>6.9</u>	<u>6.7</u>	<u>7.2</u>	<u>7.7</u>	<u>6.8</u>	<u>6.6</u>	<u>6.8</u>	<u>7.1</u>	dbm
3000	<u>6.5</u>	<u>6.0</u>	<u>7.4</u>	<u>6.2</u>	<u>6.5</u>	<u>6.7</u>	<u>7.3</u>	<u>7.1</u>	<u>6.7</u>	<u>5.9</u>	<u>6.2</u>	<u>6.4</u>	dbm
3200	<u>6.7</u>	<u>5.2</u>	<u>6.4</u>	<u>6.1</u>	<u>6.9</u>	<u>6.5</u>	<u>7.2</u>	<u>6.2</u>	<u>6.8</u>	<u>5.6</u>	<u>5.8</u>	<u>5.3</u>	dbm
3300	<u>6.5</u>	<u>5.0</u>	<u>5.7</u>	<u>6.3</u>	<u>6.9</u>	<u>6.1</u>	<u>6.7</u>	<u>5.7</u>	<u>6.7</u>	<u>5.8</u>	<u>5.8</u>	<u>4.6</u>	dbm
3400	<u>5.8</u>	<u>4.8</u>	<u>4.5</u>	<u>6.6</u>	<u>6.0</u>	<u>5.6</u>	<u>5.8</u>	<u>5.0</u>	<u>6.2</u>	<u>5.8</u>	<u>5.3</u>	<u>4.8</u>	dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

- 300-399 cps (+ 0.75 db, -2.9 db)  
400-599 cps (+ 0.75 db, -1.5 db)  
600-2400 cps (+0.75 db, -0.75 db)  
2401-3000 cps (+0.75 db, -1.5 db)  
3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.

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STATION T.I.D.Transmission Path: From T.I.D. Station to G.P.A. StationMultiplex Group No. High Group

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 1

Channel 2

Channel 3

Channel 4

Channel 5

Channel 6

Channel 7

Channel 8

Channel 9

Channel 10

Channel 11

Channel 12

S  
e  
c  
e  
l  
o  
w

-16 dbm ref. -14 dbm -2dbm  
+ 7 dbm 8.8 dbm 12.8 dbm  
+ 7 dbm 8.7 dbm 12.7 dbm  
+ 7 dbm 8.7 dbm 11.9 dbm  
+ 7 dbm 8.7 dbm 13.7 dbm  
+ 7 dbm 8.7 dbm 12.9 dbm  
+ 7 dbm 8.7 dbm 12.9 dbm  
+ 7 dbm 8.8 dbm 13.5 dbm  
+ 7 dbm 8.8 dbm 12.9 dbm  
+ 7 dbm 8.8 dbm 13.7 dbm  
+ 7 dbm 8.8 dbm 14.2 dbm  
+ 7 dbm 8.7 dbm 13.2 dbm  
+ 7 dbm 8.9 dbm 12.2 dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 27 Nov. 1963TESTER V. QuinnSUPERVISOR R. E. CarterQUALITY ASSURANCE AlfredGEEIA Ralph S. Kruger



FEDERAL ELECTRIC CORPORATION  
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MC-50 MULTIPLEX LINK TEST

STATION T.I.D.Transmission Path: From T.I.D. Station to T.I.C. Station

Multiplex Group No. \_\_\_\_\_

EXPECTED

ACTUAL

## 1. GROUP INPUT LEVEL

107 kc	Channel 1	63 kc	107 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
<del>107 kc</del>	Channel 2	67 kc	103 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
<del>107 kc</del>	Channel 3	71 kc	99 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
<del>107 kc</del>	Channel 4	75 kc	95 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
<del>107</del>	Channel 5	79 kc	91 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 6	83 kc	87 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 7	87 kc	83 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 8	91 kc	79 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 9	95 kc	75 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 10	99 kc	71 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 11	103 kc	67 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 12	107 kc	63 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv

## 2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

104.125	Channel 1	<del>xx</del> 125 kc	<del>xxxxxx</del> 125 kc	<del>-66</del> db
<del>104.125</del>	Channel 2	<del>104.125</del> kc	<del>xxxxxx</del> 125 kc	<del>-66</del> db
<del>104.125</del>	Channel 3	<del>96.125</del> kc	<del>xxxxxx</del> 125 kc	<del>-66</del> db
<del>104.</del>	Channel 4	<del>92.125</del> kc	<del>(xxxxxx)</del> 125 kc	<del>-66</del> db
	Channel 5	<del>88.125</del> kc	<del>xxxxxx</del> 125 kc	<del>-66</del> db
	Channel 6	<del>84.125</del> kc	<del>xxxxxx</del> 125 kc	<del>-66</del> db
	Channel 7	<del>80.125</del> kc	<del>xxxxxx</del> 125 kc	<del>-66</del> db
	Channel 8	<del>76.125</del> kc	<del>xxxxxx</del> 125 kc	<del>-66</del> db
	Channel 9	<del>72.125</del> kc	<del>xxxxxx</del> 125 kc	<del>-66</del> db
	Channel 10	<del>68.125</del> kc	<del>xxxxxx</del> 125 kc	<del>-66</del> db
	Channel 11	<del>64.125</del> kc	<del>xxxxxx</del> 125 kc	<del>-66</del> db
	Channel 12	<del>60.125</del> kc	<del>xxxxxx</del> 125 kc	<del>-66</del> db

## 3. GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>N/A</u> mv
A(V) Stations		
MW503A LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>4.9</u> mv



FEDERAL ELECTRIC CORPORATION  
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STATION T.I.D.Transmission Path From Station T.I.D. To Station T.I.D.

Multiplex Group No. - \_\_\_\_\_

EXPECTED ACTUAL

## 4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv)N/A mv

MW-503A LOS (except GPA)

(15.5 mv  $\pm$  1.8 mv)15.5 mv

MW-503A LOS (GPA only)

(7.7 mv  $\pm$  1.0 mv)N/A mv

GRP OUT (TP-4)

(18.0 mv  $\pm$  1.0 mv)18 mv

## 5. CHANNEL RECEIVE LEVELS

Channel 1

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 2

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 3

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 4

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 5

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 6

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 7

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 8

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 9

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 10

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 11

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 12

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

## 6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels

1 2 3 4 5 6 7 8 9 10 11 12

Frequency

300

6.2 7.0 6.8 7.3 7.1 6.0 6.8 6.2 6.9 7.2 6.7 7.2 dbm

400

6.8 7.2 7.0 7.3 7.2 6.2 6.9 6.5 7.7 7.7 7.3 7.7 dbm

600

7.3 7.3 7.5 7.5 7.5 7.2 7.2 7.0 7.3 7.2 7.1 6.9 dbm

750

7.1 7.3 7.4 7.3 7.3 7.2 7.2 7.2 7.1 7.0 6.8 6.8 dbm

1000

7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 7.0 dbm

1250

6.8 6.8 6.8 6.8 6.8 6.5 7.0 6.7 7.0 6.8 7.1 6.8 dbm



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STATION T.I.D.Transmission Path: From Station T.I.C. To Station T.I.D.

Multiplex Group No. \_\_\_\_\_

## CHANNEL FREQUENCY RESPONSE (continued)

Channels Frequency	EXPECTED					ACTUAL							
	1	2	3	4	5	6	7	8	9	10	11	12	
1500	<u>8.2</u>	<u>6.8</u>	<u>7.2</u>	<u>7.2</u>	<u>7.3</u>	<u>6.8</u>	<u>7.3</u>	<u>7.3</u>	<u>7.4</u>	<u>7.0</u>	<u>7.3</u>	<u>6.8</u>	dbm
1750	<u>7.2</u>	<u>6.8</u>	<u>7.1</u>	<u>7.1</u>	<u>7.2</u>	<u>6.5</u>	<u>7.2</u>	<u>7.5</u>	<u>7.4</u>	<u>6.8</u>	<u>6.8</u>	<u>6.5</u>	dbm
2000	<u>7.5</u>	<u>6.9</u>	<u>7.0</u>	<u>7.0</u>	<u>6.9</u>	<u>6.3</u>	<u>7.2</u>	<u>7.6</u>	<u>7.5</u>	<u>6.8</u>	<u>6.3</u>	<u>6.8</u>	dbm
2250	<u>7.5</u>	<u>7.0</u>	<u>6.7</u>	<u>6.8</u>	<u>6.8</u>	<u>6.3</u>	<u>6.8</u>	<u>7.1</u>	<u>7.1</u>	<u>6.7</u>	<u>6.3</u>	<u>6.9</u>	dbm
2400	<u>7.2</u>	<u>6.9</u>	<u>6.3</u>	<u>6.7</u>	<u>6.7</u>	<u>6.8</u>	<u>6.8</u>	<u>7.0</u>	<u>6.9</u>	<u>6.8</u>	<u>6.4</u>	<u>7.0</u>	dbm
2750	<u>7.2</u>	<u>6.9</u>	<u>6.5</u>	<u>6.4</u>	<u>6.3</u>	<u>6.5</u>	<u>6.8</u>	<u>7.2</u>	<u>6.6</u>	<u>6.7</u>	<u>6.8</u>	<u>6.8</u>	dbm
3000	<u>7.2</u>	<u>6.1</u>	<u>6.2</u>	<u>5.9</u>	<u>5.8</u>	<u>6.2</u>	<u>6.8</u>	<u>7.2</u>	<u>6.8</u>	<u>6.7</u>	<u>6.8</u>	<u>6.4</u>	dbm
3200	<u>7.4</u>	<u>5.5</u>	<u>5.8</u>	<u>6.2</u>	<u>6.2</u>	<u>6.0</u>	<u>6.8</u>	<u>7.3</u>	<u>7.2</u>	<u>5.9</u>	<u>7.2</u>	<u>6.3</u>	dbm
3300	<u>7.6</u>	<u>5.3</u>	<u>5.1</u>	<u>6.6</u>	<u>6.3</u>	<u>5.8</u>	<u>6.6</u>	<u>6.9</u>	<u>7.2</u>	<u>5.9</u>	<u>7.0</u>	<u>5.3</u>	dbm
3400	<u>7.2</u>	<u>5.2</u>	<u>4.3</u>	<u>6.4</u>	<u>6.2</u>	<u>5.5</u>	<u>6.1</u>	<u>6.5</u>	<u>6.8</u>	<u>5.9</u>	<u>6.8</u>	<u>4.3</u>	dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

- 300-399 cps ( $\pm$  0.75 db, -2.9 db)  
 400-599 cps (+ 0.75 db, -1.5 db)  
 600-2400 cps (+0.75 db, -0.75 db)  
 2401-3000 cps (+0.75 db, -1.5 db)  
 3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



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DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION T.I.D.Transmission Path; From T.I.C. Station to T.I.D. Station

Multiplex Group No. \_\_\_\_\_

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 1

Channel 2

Channel 3

Channel 4

Channel 5

Channel 6

Channel 7

Channel 8

Channel 9

Channel 10

Channel 11

Channel 12

S  
e  
e  
B  
e  
l  
o  
w

EXPECTED	ACTUAL
-16 dbm ref.	-14 dbm -2dbm
+ 7 dbm	8.9dbm 12.7dbm
+ 7 dbm	8.8 dbm 12.0dbm
+ 7 dbm	9.0 dbm 13.5 dbm
+ 7 dbm	8.9 dbm 13.7 dbm
+ 7 dbm	8.9 dbm 13.5 dbm
+ 7 dbm	8.9 dbm 13.5 dbm
+ 7 dbm	9.0 dbm 13.4 dbm
+ 7 dbm	8.9 dbm 13.9 dbm
+ 7 dbm	8.9 dbm 14.0 dbm
+ 7 dbm	8.9dbm 13.8dbm
+ 7 dbm	8.8 dbm 12.1dbm
+ 7 dbm	8.9 dbm 12.2dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 29 Nov. 1963TESTER V. QuinnSUPERVISOR Russell E. CarterQUALITY ASSURANCE Patrick H. H. H.GEEIA  
AFCS

Sheet 4 of 4

Ralph L. Krueger



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

Transmission Path: From TID Station to TKG Station  
TID

Multiplex Group No. BASE GROUP

			EXPECTED	ACTUAL
1.	GROUP INPUT LEVEL			
107kc	Channel 1	<del>XXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
103kc	Channel 2	<del>XXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
99kc	Channel 3	<del>XXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
95kc	Channel 4	<del>XXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
91kc	Channel 5	<del>XXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
87kc	Channel 6	<del>XXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
83kc	Channel 7	<del>XXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
79kc	Channel 8	<del>XXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
75kc	Channel 9	<del>XXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
71kc	Channel 10	<del>XXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
67kc	Channel 11	<del>XXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
63kc	Channel 12	<del>XXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv

2.	CHANNEL SIGNALLING LEVEL AT GROUP INPUT				
104.125kc	Channel 1	XXXXX250XX	(XXXXXX)X0.002XX	-66db	
100.125kc	Channel 2	XXXXX250XX	(XXXXXX)X0.002XX	-66db	
96.125kc	Channel 3	XXXXX250XX	(XXXXXX)X0.002XX	-66db	
92.125kc	Channel 4	XXXXX250XX	(XXXXXX)X0.002XX	-66db	
88.125kc	Channel 5	XXXXX250XX	(XXXXXX)X0.002XX	-66db	
84.125kc	Channel 6	XXXXX250XX	(XXXXXX)X0.002XX	-66db	
80.125kc	Channel 7	XXXXX250XX	(XXXXXX)X0.002XX	-66db	
76.125kc	Channel 8	XXXXX250XX	(XXXXXX)X0.002XX	-66db	
72.125kc	Channel 9	XXXXX250XX	(XXXXXX)X0.002XX	-66db	
68.125kc	Channel 10	XXXXX250XX	(XXXXXX)X0.002XX	-66db	
64.125kc	Channel 11	XXXXX250XX	(XXXXXX)X0.002XX	-66db	
60.125kc	Channel 12	XXXXX250XX	(XXXXXX)X0.002XX	-66db	

GROUP TRANSMIT LEVEL

-66db<sup>+</sup>1db(.4mv)

MRC-85, MRC-80 & FRC-39 (13.7 mv  $\pm$  0.7 mv) 13.5 mv  
A(V) Stations  
MW503A, LOS Stations (4.9 mv  $\pm$  0.2 mv) N/A mv



BRII/42

FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION T.I.D.Transmission Path From Station T.I.D.To Station T.K.G.Multiplex Group No. - BASE GROUP

EXPECTED ACTUAL

## 4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv)13.5 mv

MW-503A LOS (except GPA)

(15.5 mv  $\pm$  1.8 mv)n/a mv

MW-503A LOS (GPA only)

(7.7 mv  $\pm$  1.0 mv)n/a mv

GRP OUT (TP-4)

(18.0 mv  $\pm$  1.0 mv)18 mv

## 5. CHANNEL RECEIVE LEVELS

Channel 1

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 2

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 3

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 4

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 5

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 6

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 7

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 8

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 9

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 10

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 11

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

Channel 12

( $\pm 7$  dbm  $\pm 0.5$  db)+ 7 dbm

## 6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels

1 2 3 4 5 6 7 8 9 10 11 12

Frequency

300		7.4	5.4	6.8	6.5	5.1	7.2	7.2	6.6	7.1	6.5	4.8	6.5	dbm
400	S	7.2	6.3	6.8	7.2	6.5	7.2	7.0	7.3	7.2	7.0	6.4	7.6	dbm
600	S	7.2	7.5	8.1	7.6	7.7	7.5	7.4	7.5	7.6	7.2	7.5	7.5	dbm
750	B	7.1	7.2	7.0	7.2	7.7	7.2	7.3	7.2	7.3	7.1	7.2	7.0	dbm
1000	e	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	dbm
1250	1	6.8	7.1	7.0	7.0	6.9	6.8	6.9	7.2	7.2	7.0	7.0	7.0	dbm



BR11/42

FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION T.I.D.

Transmission Path: From Station T.I.D.  
T.K.G. To Station T.K.G.  
T.I.D.

Multiplex Group No. BASE GROUP

## CHANNEL FREQUENCY RESPONSE (continued)

Channels	EXPECTED					ACTUAL							
	1	2	3	4	5	6	7	8	9	10	11	12	
Frequency													
1500	<u>6.9</u>	<u>7.0</u>	<u>7.2</u>	<u>7.2</u>	<u>7.2</u>	<u>7.1</u>	<u>7.2</u>	<u>7.3</u>	<u>7.2</u>	<u>6.9</u>	<u>7.1</u>	<u>7.1</u>	dbm
1750	<u>7.0</u>	<u>7.0</u>	<u>6.9</u>	<u>7.0</u>	<u>7.1</u>	<u>7.1</u>	<u>7.0</u>	<u>7.3</u>	<u>7.2</u>	<u>6.5</u>	<u>6.5</u>	<u>7.5</u>	dbm
2000	<u>7.2</u>	<u>7.0</u>	<u>6.8</u>	<u>6.7</u>	<u>7.1</u>	<u>7.0</u>	<u>6.9</u>	<u>7.2</u>	<u>7.2</u>	<u>6.4</u>	<u>6.3</u>	<u>7.6</u>	dbm
2250	<u>7.2</u>	<u>7.0</u>	<u>6.6</u>	<u>6.5</u>	<u>7.2</u>	<u>6.9</u>	<u>6.8</u>	<u>7.2</u>	<u>7.1</u>	<u>6.5</u>	<u>6.4</u>	<u>7.6</u>	dbm
2400	<u>7.0</u>	<u>7.2</u>	<u>6.6</u>	<u>6.7</u>	<u>7.3</u>	<u>7.2</u>	<u>6.8</u>	<u>7.2</u>	<u>7.1</u>	<u>6.6</u>	<u>6.4</u>	<u>7.5</u>	dbm
2750	<u>6.9</u>	<u>7.5</u>	<u>6.9</u>	<u>7.1</u>	<u>7.5</u>	<u>7.6</u>	<u>7.0</u>	<u>7.3</u>	<u>7.2</u>	<u>6.8</u>	<u>6.7</u>	<u>7.4</u>	dbm
3000	<u>7.1</u>	<u>7.0</u>	<u>6.9</u>	<u>6.5</u>	<u>7.6</u>	<u>7.0</u>	<u>7.2</u>	<u>7.1</u>	<u>7.2</u>	<u>6.8</u>	<u>6.8</u>	<u>7.0</u>	dbm
3200	<u>7.3</u>	<u>6.7</u>	<u>6.7</u>	<u>6.5</u>	<u>7.5</u>	<u>6.7</u>	<u>7.5</u>	<u>6.2</u>	<u>7.5</u>	<u>6.1</u>	<u>6.9</u>	<u>7.1</u>	dbm
3300	<u>7.5</u>	<u>6.6</u>	<u>6.2</u>	<u>6.8</u>	<u>7.4</u>	<u>6.7</u>	<u>7.3</u>	<u>6.2</u>	<u>7.5</u>	<u>6.3</u>	<u>7.0</u>	<u>6.8</u>	dbm
3400	<u>7.3</u>	<u>6.3</u>	<u>5.2</u>	<u>7.0</u>	<u>7.0</u>	<u>6.8</u>	<u>6.8</u>	<u>5.6</u>	<u>7.2</u>	<u>6.7</u>	<u>6.6</u>	<u>5.5</u>	dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

- 300-399 cps (+ 0.75 db, -2.9 db)  
400-599 cps (+ 0.75 db, -1.5 db)  
600-2400 cps (+0.75 db, -0.75 db)  
2401-3000 cps (+0.75 db, -1.5 db)  
3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION T.I.D.  
Transmission Path: From T.K.G. Station to T.K.G. Station  
Multiplex Group No. BASE GROUP

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 1

S

-16 dbm ref. -14 dbm -2dbm  
+ 7 dbm 8.8 dbm 13.3 dbm

Channel 2

e

+ 7 dbm 8.9 dbm 11.8 dbm

Channel 3

B

+ 7 dbm 8.8 dbm 12.3 dbm

Channel 4

e

+ 7 dbm 9.0 dbm 12.3 dbm

Channel 5

l

+ 7 dbm 8.9 dbm 13.5 dbm

Channel 6

o

+ 7 dbm 8.8 dbm 13.5 dbm

Channel 7

w

+ 7 dbm 8.9 dbm 13.5 dbm

Channel 8

+ 7 dbm 8.9 dbm 11.8 dbm

Channel 9

+ 7 dbm 9.0 dbm 12.5 dbm

Channel 10

+ 7 dbm 8.8 dbm 12.5 dbm

Channel 11

+ 7 dbm 8.8 dbm 12.5 dbm

Channel 12

+ 7 dbm 8.9 dbm 14.0 dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 8 Dec. 1963TESTER B. S. BrownSUPERVISOR Kenneth E. CarterQUALITY ASSURANCE Patricia E. SmithGEEIA Ralph H. Kugler

Sheet 4 of 4

FCS Carl W. Hubbard

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FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TIDTransmission Path: From TID Station to TKS StationMultiplex Group No. GROUP#1

				EXPECTED	ACTUAL
1.	GROUP INPUT LEVEL				
107kc	Channel	1	<del>XXXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
103kc	Channel	2	<del>XXXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
99kc	Channel	3	<del>XXXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
95kc	Channel	4	<del>XXXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
91kc	Channel	5	<del>XXXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
87kc	Channel	6	<del>XXXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
83kc	Channel	7	<del>XXXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
79kc	Channel	8	<del>XXXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
75kc	Channel	9	<del>XXXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
71kc	Channel	10	<del>XXXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
67kc	Channel	11	<del>XXXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
63kc	Channel	12	<del>XXXXX</del>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>

## 2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

104.125kc	Channel	1	<del>XXXXXX</del>	(.125 mv $\pm$ 0.02 mv)	-66db <del>XXX</del>
100.125kc	Channel	2	<del>XXXXXX</del>	(.125 mv $\pm$ 0.02 mv)	-66db <del>XXX</del>
96.125kc	Channel	3	<del>XXXXXX</del>	(.125 mv $\pm$ 0.02 mv)	-66db <del>XXX</del>
92.125kc	Channel	4	<del>XXXXXX</del>	(.125 mv $\pm$ 0.02 mv)	-66db <del>XXX</del>
88.125kc	Channel	5	<del>XXXXXX</del>	(.125 mv $\pm$ 0.02 mv)	-66db <del>XXX</del>
84.125kc	Channel	6	<del>XXXXXX</del>	(.125 mv $\pm$ 0.02 mv)	-66db <del>XXX</del>
80.125kc	Channel	7	<del>XXXXXX</del>	(.125 mv $\pm$ 0.02 mv)	-66db <del>XXX</del>
76.125kc	Channel	8	<del>XXXXXX</del>	(.125 mv $\pm$ 0.02 mv)	-66db <del>XXX</del>
72.125kc	Channel	9	<del>XXXXXX</del>	(.125 mv $\pm$ 0.02 mv)	-66db <del>XXX</del>
68.125kc	Channel	10	<del>XXXXXX</del>	(.125 mv $\pm$ 0.02 mv)	-66db <del>XXX</del>
64.125kc	Channel	11	<del>XXXXXX</del>	(.125 mv $\pm$ 0.02 mv)	-66db <del>XXX</del>
60.125kc	Channel	12	<del>XXXXXX</del>	(.125 mv $\pm$ 0.02 mv)	-66db <del>XXX</del>

## GROUP TRANSMIT LEVEL

-66db-1db(.4mv)

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>13.7 mv</u>
A(V) Stations		
MW503A, LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>N/A mv</u>



BRIT/42

FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION T.I.D.Transmission Path From Station T.K.G. To Station T.K.G.Multiplex Group No. - GROUP # 1

EXPECTED

ACTUAL

## 4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv)13 mv

MW-503A LOS (except GPA)

(15.5 mv  $\pm$  1.8 mv)n/a mv

MW-503A LOS (GPA only)

(7.7 mv  $\pm$  1.0 mv)n/a mv

GRP OUT (TP-4)

(18.0 mv  $\pm$  1.0 mv)18 mv

## 5. CHANNEL RECEIVE LEVELS

Channel 1

( $\pm$ 7 dbm  $\pm$ 0.5 db)+ 7 dbm

Channel 2

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7 dbm

Channel 3

( $\pm$ 7 dbm  $\pm$ 0.5 db)+ 7 dbm

Channel 4

( $\pm$ 7 dbm  $\pm$ 0.5 db)+ 7 dbm

Channel 5

( $\pm$ 7 dbm  $\pm$ 0.5 db)+ 7 dbm

Channel 6

( $\pm$ 7 dbm  $\pm$ 0.5 db)+ 7 dbm

Channel 7

( $\pm$ 7 dbm  $\pm$ 0.5 db)+ 7 dbm

Channel 8

( $\pm$ 7 dbm  $\pm$ 0.5 db)+ 7 dbm

Channel 9

( $\pm$ 7 dbm  $\pm$ 0.5 db)+ 7 dbm

Channel 10

( $\pm$ 7 dbm  $\pm$ 0.5 db)+ 7 dbm

Channel 11

( $\pm$ 7 dbm  $\pm$ 0.5 db)+ 7 dbm

Channel 12

( $\pm$ 7 dbm  $\pm$ 0.5 db)dbm

## 6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels

1 2 3 4 5 6 7 8 9 10 11 12

Frequency

300		+ 6.5	- 5.8	4.2	8.2	7.3	6.0	6.0	6.2	5.0	5.5	6.0	6.0	dbm
400	S	+ 7.6	6.8	6.2	7.2	7.5	6.8	7.0	7.3	7.0	7.1	7.0	7.4	dbm
600	8	+ 7.6	7.4	7.5	7.6	7.4	7.2	7.4	7.6	7.1	7.3	7.3	7.5	dbm
750	B	+ 7.5	7.2	7.2	7.3	7.1	7.2	7.2	7.4	7.2	7.0	7.0	7.0	dbm
1000	e	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	dbm
1250	l	7.0	6.9	6.8	6.8	7.0	6.8	6.8	7.0	6.8	6.8	7.0	6.8	dbm
	0													
	w													



BRH/42

FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION T.I.D.Transmission Path: From Station T.I.D. To Station T.K.G.Multiplex Group No. GROUP # 1

## CHANNEL FREQUENCY RESPONSE (continued)

Channels	EXPECTED					ACTUAL							
	1	2	3	4	5	6	7	8	9	10	11	12	
Frequency													
1500	+	7.2	6.9	7.1	7.0	7.2	7.2	7.0	7.2	7.0	6.8	7.2	7.0 dbm
1750	*	7.3	6.8	7.2	6.8	7.1	7.3	6.7	7.0	7.1	6.2	6.8	7.0 dbm
2000		7.3	6.8	7.2	6.9	6.9	7.3	7.0	6.8	7.0	6.0	7.0	7.2 dbm
2250		7.4	6.9	7.2	7.0	7.0	7.2	6.8	6.3	7.0	6.0	7.0	7.3 dbm
2400		7.4	7.1	7.1	6.8	7.2	7.4	6.7	6.2	7.1	6.2	6.6	7.3 dbm
2750		7.1	7.0	7.2	6.6	7.4	7.5	7.0	6.2	6.8	6.8	7.0	7.5 dbm
3000		7.5	6.4	7.2	6.0	6.8	7.2	7.0	5.8	6.8	6.2	6.8	7.2 dbm
3200		7.3	6.5	7.6	5.8	7.1	6.8	6.8	5.8	7.2	5.9	6.6	6.8 dbm
3300		7.5	6.5	7.4	6.2	7.2	6.7	6.4	5.6	7.3	6.0	6.5	6.0 dbm
3400		7.6	6.5	6.9	6.2	6.5	6.4	5.8	5.2	7.0	6.0	6.4	4.7 dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

- 300-399 cps (+ 0.75 db, -2.9 db)  
 400-599 cps (+ 0.75 db, -1.5 db)  
 600-2400 cps (+0.75 db, -0.75 db)  
 2401-3000 cps (+0.75 db, -1.5 db)  
 3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TIDTransmission Path: From TID Station to TID StationMultiplex Group No. GROUP #1

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 1

Channel 2

Channel 3

Channel 4

Channel 5

Channel 6

Channel 7

Channel 8

Channel 9

Channel 10

Channel 11

Channel 12

S  
e  
e  
B  
e  
l  
o  
w

Channel	Expected	Actual
Channel 1	+7 dbm	8.8 dbm
Channel 2	+7 dbm	8.8 dbm
Channel 3	+7 dbm	8.8 dbm
Channel 4	+7 dbm	8.8 dbm
Channel 5	+7 dbm	8.7 dbm
Channel 6	+7 dbm	8.8 dbm
Channel 7	+7 dbm	8.8 dbm
Channel 8	+7 dbm	8.9 dbm
Channel 9	+7 dbm	8.8 dbm
Channel 10	+7 dbm	8.9 dbm
Channel 11	+7 dbm	8.8 dbm
Channel 12	+7 dbm	8.8 dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 8 Dec 63TESTER Paul J. SmithSUPERVISOR Russell E. CarterQUALITY ASSURANCE Carl T. Kuddell



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TICTransmission Path: From TIC Station to TID StationMultiplex Group No. 1

GROUP INPUT LEVEL		EXPECTED	ACTUAL
Channel 1	63 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 2	67 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 3	71 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 4	75 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 5	79 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 6	83 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 7	87 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 8	91 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 9	95 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 10	99 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 11	103 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 12	107 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv

## 2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

Channel 1	60.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>65.9</u> mv
Channel 2	64.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>65.0</u> mv
Channel 3	68.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>65.3</u> mv
Channel 4	72.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>65.9</u> mv
Channel 5	76.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>65.0</u> mv
Channel 6	80.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>65.8</u> mv
Channel 7	84.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>65.2</u> mv
Channel 8	88.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>65.2</u> mv
Channel 9	92.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>66.0</u> mv
Channel 10	96.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>66.5</u> mv
Channel 11	100.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>66.2</u> mv
Channel 12	104.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>66.4</u> mv

## 3. GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>N/A</u> mv
A(V) Stations		
MW503A LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>4.9</u> mv



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FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TIC

Transmission Path From Station TIC To Station TLD

Multiplex Group No. - 1

EXPECTED ACTUAL

4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)

(13.7 mv  $\pm$  1.5 mv)

N/A mv

MW-503A LOS (except GPA)

(15.5 mv  $\pm$  1.8 mv)

15.5 mv

MW-503A LOS (GPA only)

(7.7 mv  $\pm$  1.0 mv)

N/A mv

GRP OUT (TP-4)

(18.0 mv  $\pm$  1.0 mv)

18.0 mv

5. CHANNEL RECEIVE LEVELS

Channel 1

( $\pm 7$  dbm  $\pm 0.5$  db)

+7.0 dbm

Channel 2

( $\pm 7$  dbm  $\pm 0.5$  db)

+7.0 dbm

Channel 3

( $\pm 7$  dbm  $\pm 0.5$  db)

+7.0 dbm

Channel 4

( $\pm 7$  dbm  $\pm 0.5$  db)

+7.0 dbm

Channel 5

( $\pm 7$  dbm  $\pm 0.5$  db)

+7.0 dbm

Channel 6

( $\pm 7$  dbm  $\pm 0.5$  db)

+7.0 dbm

Channel 7

( $\pm 7$  dbm  $\pm 0.5$  db)

+7.0 dbm

Channel 8

( $\pm 7$  dbm  $\pm 0.5$  db)

+7.0 dbm

Channel 9

( $\pm 7$  dbm  $\pm 0.5$  db)

+7.0 dbm

Channel 10

( $\pm 7$  dbm  $\pm 0.5$  db)

+7.0 dbm

Channel 11

( $\pm 7$  dbm  $\pm 0.5$  db)

+7.0 dbm

Channel 12

( $\pm 7$  dbm  $\pm 0.5$  db)

+7.0 dbm

6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels 1 2 3 4 5 6 7 8 9 10 11 12

Frequency

300 6.0 6.1 5.0 6.0 7.0 5.4 6.0 6.0 4.8 7.0 4.9 4.9 dbm

400 S 6.6 7.0 5.5 6.0 6.7 6.0 6.5 6.3 6.2 6.8 5.5 6.5 dbm

600 e 6.8 7.1 7.0 6.7 7.0 6.7 7.0 6.8 7.2 6.8 6.9 7.2 dbm

750 B 6.6 7.0 7.1 7.0 7.0 7.0 7.0 7.0 6.9 6.5 7.0 7.0 dbm

1000 e 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5 dbm

1250 i 6.8 6.5 6.5 6.5 6.8 6.4 6.5 6.5 6.5 6.5 7.0 6.1 dbm



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FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TICTransmission Path: From Station TIC To Station TIDMultiplex Group No. 1

## CHANNEL FREQUENCY RESPONSE (continued)

Channels Frequency	EXPECTED				ACTUAL							
	1	2	3	4	5	6	7	8	9	10	11	12
1500	<u>7.0</u>	<u>6.5</u>	<u>7.0</u>	<u>6.8</u>	<u>6.8</u>	<u>6.4</u>	<u>6.9</u>	<u>6.8</u>	<u>7.1</u>	<u>6.1</u>	<u>7.0</u>	<u>6.2</u> dbm
1750	<u>7.0</u>	<u>6.5</u>	<u>7.0</u>	<u>6.8</u>	<u>6.7</u>	<u>6.5</u>	<u>7.1</u>	<u>7.1</u>	<u>7.1</u>	<u>6.0</u>	<u>7.0</u>	<u>6.5</u> dbm
2000	<u>7.1</u>	<u>6.5</u>	<u>7.0</u>	<u>6.7</u>	<u>6.5</u>	<u>6.4</u>	<u>7.0</u>	<u>7.0</u>	<u>7.2</u>	<u>6.0</u>	<u>6.8</u>	<u>6.9</u> dbm
2250	<u>7.0</u>	<u>6.2</u>	<u>7.0</u>	<u>6.6</u>	<u>6.8</u>	<u>6.2</u>	<u>7.0</u>	<u>7.0</u>	<u>7.0</u>	<u>6.0</u>	<u>6.8</u>	<u>6.9</u> dbm
2400	<u>6.9</u>	<u>6.5</u>	<u>7.0</u>	<u>6.5</u>	<u>6.6</u>	<u>6.0</u>	<u>7.0</u>	<u>7.0</u>	<u>6.8</u>	<u>6.0</u>	<u>6.5</u>	<u>6.7</u> dbm
2750	<u>6.5</u>	<u>6.0</u>	<u>7.0</u>	<u>6.2</u>	<u>6.3</u>	<u>6.2</u>	<u>7.0</u>	<u>6.5</u>	<u>6.4</u>	<u>6.0</u>	<u>6.5</u>	<u>6.1</u> dbm
3000	<u>6.5</u>	<u>5.2</u>	<u>6.9</u>	<u>5.8</u>	<u>6.0</u>	<u>6.0</u>	<u>7.0</u>	<u>6.0</u>	<u>6.0</u>	<u>5.2</u>	<u>6.1</u>	<u>6.0</u> dbm
3200	<u>6.6</u>	<u>4.8</u>	<u>6.2</u>	<u>5.2</u>	<u>6.2</u>	<u>5.9</u>	<u>6.9</u>	<u>5.0</u>	<u>6.0</u>	<u>5.0</u>	<u>6.0</u>	<u>5.5</u> dbm
3300	<u>6.5</u>	<u>4.5</u>	<u>6.0</u>	<u>5.2</u>	<u>6.0</u>	<u>5.6</u>	<u>6.2</u>	<u>4.2</u>	<u>5.9</u>	<u>5.0</u>	<u>6.0</u>	<u>4.9</u> dbm
3400	<u>6.1</u>	<u>4.2</u>	<u>5.0</u>	<u>5.0</u>	<u>5.5</u>	<u>5.5</u>	<u>5.9</u>	<u>4.0</u>	<u>5.7</u>	<u>5.0</u>	<u>5.9</u>	<u>5.7</u> dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

- 300-399 cps (+ 0.75 db, -2.9 db)  
 400-599 cps (+ 0.75 db, -1.5 db)  
 600-2400 cps (+0.75 db, -0.75 db)  
 2401-3000 cps (+0.75 db, -1.5 db)  
 3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TICTransmission Path; From TIC Station to TID Station

Multiplex Group No. \_\_\_\_\_

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 1

S

-16 dbm ref. -14 dbm -2dbm

+6.4 dbm 8.3 dbm 13.0 dbm

Channel 2

a

+6.2 dbm 8.2 dbm 14.0 dbm

Channel 3

e

+6.2 dbm 8.2 dbm 13.0 dbm

Channel 4

B

+6.2 dbm 8.2 dbm 12.0 dbm

Channel 5

l

+6.2 dbm 8.2 dbm 12.0 dbm

Channel 6

o

+6.2 dbm 8.2 dbm 12.0 dbm

Channel 7

w

+6.0 dbm 8.0 dbm 13.0 dbm

Channel 8

+6.0 dbm 8.0 dbm 13.8 dbm

Channel 9

+6.5 dbm 8.2 dbm 11.5 dbm

Channel 10

+6.0 dbm 8.0 dbm 13.1 dbm

Channel 11

+6.1 dbm 8.0 dbm 13.8 dbm

Channel 12

+6.3 dbm 8.2 dbm 13.0 dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 29 November 1965TESTER [Signature]SUPERVISOR [Signature]QUALITY ASSURANCE [Signature]GEEIA [Signature]



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKGTransmission Path: From TKG Station to TID StationMultiplex Group No. 1 Rack #1

		EXPECTED	ACTUAL
1.	GROUP INPUT LEVEL		
	Channel 1 63 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 2 67 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 3 71 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 4 75 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 5 79 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 6 83 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 7 87 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 8 91 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 9 95 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 10 99 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 11 103 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 12 107 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>

## 2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

Channel 1	60.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66.3 mVdb</u>
Channel 2	64.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66.0 mVdb</u>
Channel 3	68.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66.5 mVdb</u>
Channel 4	72.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66.9 mVdb</u>
Channel 5	76.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-65.5 mVdb</u>
Channel 6	80.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-65.5 mVdb</u>
Channel 7	84.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66.5 mVdb</u>
Channel 8	88.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66.5 mVdb</u>
Channel 9	92.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66.3 mVdb</u>
Channel 10	96.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66.3 mVdb</u>
Channel 11	100.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-65.5 mVdb</u>
Channel 12	104.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66.2 mVdb</u>

## 3. GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>13.7 mv</u>
A(V) Stations		
MW503A, LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>N/A mv</u>



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**FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST**

STATION TKGTransmission Path From Station TKG To Station TIDMultiplex Group No. 1 Rack# 1

EXPECTED ACTUAL

**4. GROUP RECEIVE LEVEL**

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv)\*25.0mvMW-503A LOS (except GPA)  
MW-503A LOS (GPA only)  
GRP OUT (TP-4)(15.5 mv  $\pm$  1.8 mv)  
(7.7 mv  $\pm$  1.0 mv)  
(18.0 mv  $\pm$  1.0 mv)N/A mv  
N/A mv  
18.0mv**5. CHANNEL RECEIVE LEVELS**

Channel 1

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 2

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 3

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 4

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 5

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 6

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 7

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 8

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 9

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 10

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 11

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 12

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm**6. CHANNEL FREQUENCY RESPONSE**

EXPECTED

ACTUAL

Channels 1 2 3 4 5 6 7 8 9 10 11 12

Frequency

300		6.5	5.5	5.6	5.0	6.5	7.3	5.0	5.0	5.0	6.3	6.0	4.8	dbm
400	S	6.8	6.8	7.0	6.5	7.5	7.0	6.2	6.4	6.9	7.2	6.0	6.1	dbm
600	S	7.2	7.7	7.6	7.5	7.5	7.7	7.2	7.4	7.7	7.7	7.1	7.0	dbm
750	B	7.2	7.4	7.2	7.3	7.5	7.5	7.3	7.4	7.5	7.2	7.3	7.1	dbm
1000	e	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	dbm
1250	o	6.9	6.9	7.2	7.2	7.1	7.2	7.0	7.2	7.3	7.0	7.2	7.0	dbm

\* OUT OF SPEC

Sheet 2 of 4

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**FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST**

STATION TKGTransmission Path: From Station TKG To Station TIDMultiplex Group No. 1 Group #1**CHANNEL FREQUENCY RESPONSE (continued)**

Channels Frequency	EXPECTED					ACTUAL							
	1	2	3	4	5	6	7	8	9	10	11	12	
1500	<u>7.0</u>	<u>6.8</u>	<u>7.3</u>	<u>7.4</u>	<u>7.6</u>	<u>7.7</u>	<u>7.1</u>	<u>7.0</u>	<u>7.0</u>	<u>7.2</u>	<u>7.3</u>	<u>7.0</u>	dbm
1750	<u>7.0</u>	<u>6.8</u>	<u>7.0</u>	<u>7.4</u>	<u>7.3</u>	<u>7.7</u>	<u>7.1</u>	<u>6.8</u>	<u>6.8</u>	<u>7.1</u>	<u>7.3</u>	<u>6.8</u>	dbm
2000	<u>7.2</u>	<u>6.8</u>	<u>7.0</u>	<u>7.3</u>	<u>7.5</u>	<u>7.6</u>	<u>7.1</u>	<u>7.0</u>	<u>6.8</u>	<u>6.9</u>	<u>7.2</u>	<u>7.3</u>	dbm
2250	<u>7.4</u>	<u>7.0</u>	<u>6.8</u>	<u>7.2</u>	<u>7.7</u>	<u>7.3</u>	<u>7.1</u>	<u>7.0</u>	<u>6.4</u>	<u>7.0</u>	<u>7.0</u>	<u>7.2</u>	dbm
2400	<u>7.2</u>	<u>7.5</u>	<u>6.9</u>	<u>7.7</u>	<u>7.5</u>	<u>7.2</u>	<u>7.2</u>	<u>7.3</u>	<u>6.5</u>	<u>7.0</u>	<u>6.8</u>	<u>7.4</u>	dbm
2750	<u>7.3</u>	<u>7.7</u>	<u>7.0</u>	<u>7.5</u>	<u>7.3</u>	<u>7.7</u>	<u>7.7</u>	<u>7.3</u>	<u>6.5</u>	<u>7.1</u>	<u>6.1</u>	<u>7.4</u>	dbm
3000	<u>7.5</u>	<u>7.0</u>	<u>5.7</u>	<u>6.8</u>	<u>7.0</u>	<u>7.3</u>	<u>7.5</u>	<u>7.0</u>	<u>6.3</u>	<u>6.3</u>	<u>5.8</u>	<u>7.0</u>	dbm
3200	<u>7.3</u>	<u>6.8</u>	<u>4.5</u>	<u>6.8</u>	<u>7.2</u>	<u>7.5</u>	<u>7.3</u>	<u>6.5</u>	<u>6.3</u>	<u>5.9</u>	<u>6.2</u>	<u>6.3</u>	dbm
3300	<u>7.3</u>	<u>6.8</u>	<u>4.9</u>	<u>6.8</u>	<u>7.3</u>	<u>7.3</u>	<u>7.0</u>	<u>6.0</u>	<u>6.2</u>	<u>5.8</u>	<u>6.2</u>	<u>6.3</u>	dbm
3400	<u>7.2</u>	<u>7.0</u>	<u>*3.6</u>	<u>6.5</u>	<u>7.2</u>	<u>7.0</u>	<u>6.0</u>	<u>5.5</u>	<u>5.8</u>	<u>6.0</u>	<u>5.4</u>	<u>6.0</u>	dbm

\* OUT OF SPEC.**LIMITS WITH RESPECT TO 1 KC LEVEL**

- 300-399 cps (+ 0.75 db, -2.9 db)  
 400-599 cps (+ 0.75 db, -1.5 db)  
 600-2400 cps (+0.75 db, -0.75 db)  
 2401-3000 cps (+0.75 db, -1.5 db)  
 3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKGTransmission Path; From TKG Station to TID StationMultiplex Group No. 1 Group#1

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 1

S

-16 dbm ref. -14 dbm -2dbm

Channel 2

e

7.0 dbm 9.9 dbm 13.2 dbm

Channel 3

e

7.0 dbm 9.9 dbm 13.2 dbm

Channel 4

B

7.0 dbm 10.0 dbm 13.3 dbm

Channel 5

e

7.0 dbm 10.0 dbm 13.3 dbm

Channel 6

l

7.0 dbm 10.0 dbm 13.3 dbm

Channel 7

o

7.0 dbm 10.0 dbm 13.3 dbm

Channel 8

w

7.0 dbm 10.0 dbm 13.3 dbm

Channel 9

7.0 dbm 10.0 dbm 13.0 dbm

Channel 10

7.0 dbm 10.0 dbm 13.0 dbm

Channel 11

7.0 dbm 10.0 dbm 13.1 dbm

Channel 12

7.0 dbm 10.0 dbm 13.2 dbm7.0 dbm 10.0 dbm 13.0 dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 5 December 1963TESTER J. W. MarkisSUPERVISOR William R. RudolphQUALITY ASSURANCE James T. MalbroughGEEA Donald A. Holmes



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKG.Transmission Path: From TKG Station to TID StationMultiplex Group No. 2 Rack#2

		EXPECTED	ACTUAL
1.	GROUP INPUT LEVEL		
	Channel 1 63 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 2 67 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 3 71 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 4 75 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 5 79 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 6 83 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 7 87 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 8 91 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 9 95 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 10 99 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 11 103 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 12 107 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>

## 2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

Channel 1	60.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66.5mv</u>
Channel 2	64.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-65.8mv</u>
Channel 3	68.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66.7mv</u>
Channel 4	72.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-65.5mv</u>
Channel 5	76.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-65.5mv</u>
Channel 6	80.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66.5mv</u>
Channel 7	84.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-65.7mv</u>
Channel 8	88.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66.0mv</u>
Channel 9	92.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66.5mv</u>
Channel 10	96.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66.2mv</u>
Channel 11	100.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66.0mv</u>
Channel 12	104.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>-66.8mv</u>
		(-66.5 $\pm$ 1.0 0.40 mv)	

## GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>13.7 mv</u>
A(V) Stations		
MW503A LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>N/A mv</u>



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FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKGTransmission Path From Station TKG To Station TIDMultiplex Group No. - 2 Rack#2

EXPECTED ACTUAL

## 4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv) \* 24.0mvMW-503A LOS (except GPA)  
MW-503A LOS (GPA only)(15.5 mv  $\pm$  1.8 mv)

N/A mv

(7.7 mv  $\pm$  1.0 mv)

N/A mv

GRP OUT (TP-4)

(18.0 mv  $\pm$  1.0 mv)16.0 mv

## 5. CHANNEL RECEIVE LEVELS

Channel	Expected	Actual
Channel 1	( $\pm 7$ dbm $\pm 0.5$ db)	7.0 dbm
Channel 2	( $\pm 7$ dbm $\pm 0.5$ db)	7.0 dbm
Channel 3	( $\pm 7$ dbm $\pm 0.5$ db)	7.0 dbm
Channel 4	( $\pm 7$ dbm $\pm 0.5$ db)	7.0 dbm
Channel 5	( $\pm 7$ dbm $\pm 0.5$ db)	7.0 dbm
Channel 6	( $\pm 7$ dbm $\pm 0.5$ db)	7.0 dbm
Channel 7	( $\pm 7$ dbm $\pm 0.5$ db)	7.0 dbm
Channel 8	( $\pm 7$ dbm $\pm 0.5$ db)	7.0 dbm
Channel 9	( $\pm 7$ dbm $\pm 0.5$ db)	7.0 dbm
Channel 10	( $\pm 7$ dbm $\pm 0.5$ db)	7.0 dbm
Channel 11	( $\pm 7$ dbm $\pm 0.5$ db)	7.0 dbm
Channel 12	( $\pm 7$ dbm $\pm 0.5$ db)	7.0 dbm

## 6. CHANNEL FREQUENCY RESPONSE

Channels	Frequency	EXPECTED												ACTUAL												
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
300		5.0	6.5	5.3	7.5	5.2	7.7	5.3	5.6	5.0	7.5	7.0	5.6	dbm												
400	S	7.0	7.6	7.1	7.3	6.6	7.0	6.4	6.8	6.0	7.7	7.0	7.0	dbm												
600	S	7.7	7.7	7.3	7.5	7.7	7.6	7.2	7.5	7.7	7.7	7.2	7.2	dbm												
750	B	7.3	7.3	7.2	7.0	7.2	7.4	7.2	7.4	7.4	7.3	7.1	6.9	dbm												
1000	e	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	dbm												
1250	o	7.0	7.0	7.4	7.1	7.2	6.9	7.2	7.2	7.1	7.1	7.2	7.2	dbm												
	w	* OUT OF SPEC.																								



BRII/42

**FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST**

STATION TKGTransmission Path: From Station TKG To Station TIDMultiplex Group No. 2 Rack #2**CHANNEL FREQUENCY RESPONSE (continued)**

Channels Frequency	EXPECTED				ACTUAL							
	1	2	3	4	5	6	7	8	9	10	11	12
1500	<u>7.0</u>	<u>6.9</u>	<u>7.2</u>	<u>7.0</u>	<u>7.1</u>	<u>6.6</u>	<u>7.0</u>	<u>7.3</u>	<u>7.0</u>	<u>6.9</u>	<u>7.2</u>	<u>6.8</u> dbm
1750	<u>7.1</u>	<u>6.6</u>	<u>7.2</u>	<u>6.8</u>	<u>6.9</u>	<u>6.7</u>	<u>6.7</u>	<u>7.3</u>	<u>7.7</u>	<u>6.7</u>	<u>6.7</u>	<u>6.7</u> dbm
2000	<u>7.2</u>	<u>6.6</u>	<u>7.2</u>	<u>6.5</u>	<u>6.6</u>	<u>6.4</u>	<u>6.8</u>	<u>7.3</u>	<u>7.7</u>	<u>6.9</u>	<u>6.6</u>	<u>7.0</u> dbm
2250	<u>7.4</u>	<u>7.0</u>	<u>7.2</u>	<u>7.7</u>	<u>6.9</u> *	<u>6.1</u>	<u>6.3</u>	<u>7.0</u>	<u>7.3</u>	<u>6.9</u>	<u>6.6</u>	<u>7.0</u> dbm
2400	<u>7.5</u>	<u>7.1</u>	<u>7.4</u>	<u>7.1</u>	<u>7.0</u>	<u>6.3</u>	<u>6.3</u>	<u>7.0</u>	<u>7.4</u>	<u>7.0</u>	<u>6.8</u>	<u>7.0</u> dbm
2750	<u>7.2</u>	<u>7.3</u>	<u>7.3</u>	<u>7.1</u>	<u>7.0</u>	<u>7.0</u>	<u>6.9</u>	<u>7.6</u>	<u>7.6</u>	<u>7.6</u>	<u>7.2</u>	<u>7.3</u> dbm
3000	<u>7.6</u>	<u>7.1</u>	<u>6.5</u>	<u>7.0</u>	<u>6.3</u> *	<u>6.1</u>	<u>7.0</u>	<u>7.5</u>	<u>7.4</u>	<u>6.9</u>	<u>7.0</u>	<u>7.2</u> dbm
3200	<u>7.7</u>	<u>7.2</u>	<u>5.8</u>	<u>7.0</u>	<u>6.6</u>	<u>6.7</u>	<u>6.6</u>	<u>7.3</u>	<u>7.3</u>	<u>6.5</u>	<u>7.2</u>	<u>7.0</u> dbm
3300	<u>7.6</u>	<u>7.4</u>	<u>5.3</u>	<u>7.4</u>	<u>6.8</u>	<u>6.4</u>	<u>6.0</u>	<u>7.3</u>	<u>7.0</u>	<u>6.4</u>	<u>7.0</u>	<u>6.0</u> dbm
3400	<u>7.2</u>	<u>7.3</u>	<u>5.9</u>	<u>7.2</u>	<u>6.4</u>	<u>6.0</u>	<u>5.0</u>	<u>6.9</u>	<u>6.0</u>	<u>6.5</u>	<u>6.8</u>	<u>4.5</u> dbm

\* OUT OF SPEC.

**LIMITS WITH RESPECT TO 1 KC LEVEL**

300-399 cps (+ 0.75 db, -2.9 db)  
 400-599 cps (+ 0.75 db, -1.5 db)  
 600-2400 cps (+0.75 db, -0.75 db)  
 2401-3000 cps (+0.75 db, -1.5 db)  
 3001-3400 cps (+0.75 db, -2.9 db)

**NOTE:** If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKGTransmission Path; From TKG Station to TID StationMultiplex Group No. 2 Rack#2

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 1

S

-16 dbm ref. -14 dbm -2dbm

Channel 2

e

7.0 dbm 9.0 dbm 13.0 dbm

Channel 3

e

7.0 dbm 9.0 dbm 13.0 dbm

Channel 4

B

7.0 dbm 9.0 dbm 12.0 dbm

Channel 5

e

7.0 dbm 9.0 dbm 13.0 dbm

Channel 6

l

7.0 dbm 9.0 dbm 13.0 dbm

Channel 7

o

7.0 dbm 9.0 dbm 13.0 dbm

Channel 8

w

7.0 dbm 9.0 dbm 14.0 dbm

Channel 9

7.0 dbm 9.0 dbm 13.0 dbm

Channel 10

7.0 dbm 9.0 dbm 14.0 dbm

Channel 11

7.0 dbm 9.0 dbm 13.5 dbm

Channel 12

7.0 dbm 9.0 dbm 12.0 dbm7.0 dbm 9.0 dbm 13.0 dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 5 December 1963TESTER W. MarkinSUPERVISOR William R. BurdetteQUALITY ASSURANCE Joseph M. MaloneyGEEIA Frank A. Maloney



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKGTransmission Path: From TKG Station to TAL StationMultiplex Group No. 9

		EXPECTED	ACTUAL
1.	GROUP INPUT LEVEL		
	Channel 1 63 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 2 67 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 3 71 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 4 75 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 5 79 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 6 83 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 7 87 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 8 91 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 9 95 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 10 99 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 11 103 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
	Channel 12 107 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv

## 2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

Channel 1	60.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 2	64.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 3	68.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 4	72.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 5	76.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 6	80.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 7	84.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 8	88.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 9	92.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 10	96.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 11	100.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 12	104.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv

## 3. GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>N/A</u> mv
A(V) Stations		
MW503A, LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>4.90</u> mv



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FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKGTransmission Path From Station TKG To Station TALMultiplex Group No. - #9

EXPECTED ACTUAL

## 4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv)N/A mv

MW-503A LOS (except GPA)

(15.5 mv  $\pm$  1.8 mv)15.0 mv

MW-503A LOS (GPA only)

(7.7 mv  $\pm$  1.0 mv)N/A mv

GRP OUT (TP-4)

(18.0 mv  $\pm$  1.0 mv)18.0 mv

## 5. CHANNEL RECEIVE LEVELS

Channel 1

( $\pm$ 7 dbm  $\pm$ 0.5 db)7.0 dbm

Channel 2

( $\pm$ 7 dbm  $\pm$ 0.5 db)7.0 dbm

Channel 3

( $\pm$ 7 dbm  $\pm$ 0.5 db)7.0 dbm

Channel 4

( $\pm$ 7 dbm  $\pm$ 0.5 db)7.0 dbm

Channel 5

( $\pm$ 7 dbm  $\pm$ 0.5 db)7.0 dbm

Channel 6

( $\pm$ 7 dbm  $\pm$ 0.5 db)7.0 dbm

Channel 7

( $\pm$ 7 dbm  $\pm$ 0.5 db)7.0 dbm

Channel 8

( $\pm$ 7 dbm  $\pm$ 0.5 db)7.0 dbm

Channel 9

( $\pm$ 7 dbm  $\pm$ 0.5 db)7.0 dbm

Channel 10

( $\pm$ 7 dbm  $\pm$ 0.5 db)7.0 dbm

Channel 11

( $\pm$ 7 dbm  $\pm$ 0.5 db)7.0 dbm

Channel 12

( $\pm$ 7 dbm  $\pm$ 0.5 db)7.0 dbm

## 6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels

1 2 3 4 5 6 7 8 9 10 11 12

Frequency

300		7.0	7.0	7.6	7.2	6.5	4.3	4.8	6.5	4.2	6.7	4.9	4.9	dbm
400	S	7.3	7.0	7.2	7.0	6.9	6.0	6.3	7.0	6.0	6.9	6.2	6.8	dbm
600	S	7.7	7.3	7.3	7.3	7.3	7.7	7.5	7.7	7.6	7.3	7.3	7.3	dbm
750	B	7.4	7.2	7.1	7.3	7.3	7.7	7.5	7.7	7.4	7.2	7.3	7.1	dbm
1000	e	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	dbm
1250	0	7.0	6.8	7.0	6.9	7.0	7.0	7.0	7.2	7.0	6.9	7.0	6.9	dbm

w



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKGTransmission Path: From Station TKG To Station TALMultiplex Group No. 9

## CHANNEL FREQUENCY RESPONSE (continued)

Channels	EXPECTED					ACTUAL							
	1	2	3	4	5	6	7	8	9	10	11	12	
Frequency													
1500	7.2	7.0	7.2	7.0	7.4	7.0	7.2	7.3	7.0	6.9	7.1	6.7	dbm
1750	7.4	6.8	7.2	7.0	7.1	6.8	7.2	7.5	7.0	6.6	6.6	6.7	dbm
2000	7.7	6.6	7.1	6.8	6.7	6.5	7.1	7.5	6.7	6.5	6.3	6.8	dbm
2250	7.6	6.5	7.0	6.8	6.3	6.3	6.9	7.4	6.6	6.5	6.4	6.8	dbm
2400	7.6	6.8	7.1	6.9	6.4	6.4	6.9	7.5	6.3	6.6	6.4	6.8	dbm
2750	7.0	6.9	6.9	7.0	6.8	6.6	7.3	7.7	6.3	6.7	6.8	6.7	dbm
3000	7.3	6.7	6.1	6.4	6.0	6.0	7.6	7.2	6.4	6.0	6.3	6.5	dbm
3200	7.7	6.6	6.1	6.6	6.0	5.5	7.7	7.1	7.1	6.1	6.2	6.3	dbm
3300	7.7	6.8	5.9	7.0	6.1	5.3	7.3	7.0	7.2	6.4	6.2	5.9	dbm
3400	7.3	6.9	5.0	7.0	6.1	5.2	6.7	6.7	6.7	6.8	6.0	4.3	dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

- 300-399 cps (+ 0.75 db, -2.9 db)  
 400-599 cps (+ 0.75 db, -1.5 db)  
 600-2400 cps (+0.75 db, -0.75 db)  
 2401-3000 cps (+0.75 db, -1.5 db)  
 3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.

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FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKGTransmission Path; From TKG Station to TAL StationMultiplex Group No. 9

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 1

S

-16 dbm ref. -14 dbm -2dbm

Channel 2

e

7.0 dbm 8.8 dbm 12.0 dbm

Channel 3

B

7.0 dbm 8.8 dbm 13.3 dbm

Channel 4

e

7.0 dbm 8.8 dbm 13.2 dbm

Channel 5

l

7.0 dbm 8.8 dbm 11.7 dbm

Channel 6

o

7.0 dbm 8.8 dbm 12.2 dbm

Channel 7

w

7.0 dbm 8.7 dbm 12.0 dbm

Channel 8

7.0 dbm 8.8 dbm 11.7 dbm

Channel 9

7.0 dbm 8.8 dbm 13.9 dbm

Channel 10

7.0 dbm 8.8 dbm 13.2 dbm

Channel 11

7.0 dbm 8.8 dbm 12.8 dbm

Channel 12

7.0 dbm 8.9 dbm 11.6 dbm7.0 dbm 8.9 dbm 12.8 dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 12-13-63TESTER D. MarkisSUPERVISOR William D. RudisillQUALITY ASSURANCE Joseph D. MaloneyGEEIA Gerald A. Holmes



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKGTransmission Path: From TKG Station to TCO StationMultiplex Group No. 7

		EXPECTED	ACTUAL
1.	GROUP INPUT LEVEL		
	Channel 1 63 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 2 67 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 3 71 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 4 75 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 5 79 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 6 83 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 7 87 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 8 91 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 9 95 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 10 99 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 11 103 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 12 107 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>

## 2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

Channel 1	60.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
Channel 2	64.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
Channel 3	68.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
Channel 4	72.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
Channel 5	76.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
Channel 6	80.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
Channel 7	84.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
Channel 8	88.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
Channel 9	92.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
Channel 10	96.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
Channel 11	100.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
Channel 12	104.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>

## 3. GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>13.7 mv</u>
A(V) Stations		
MW503A LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>N/A mv</u>



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKGTransmission Path From Station TKG To Station TCOMultiplex Group No. 7

EXPECTED ACTUAL

## 4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv) 13.7 mvMW-503A LOS (except GPA)  
MW-503A LOS (GPA only)  
GRP OUT (TP-4)(15.5 mv  $\pm$  1.8 mv)  
(7.7 mv  $\pm$  1.0 mv)  
(18.0 mv  $\pm$  1.0 mv)  
N/A mv  
N/A mv  
18.7 mv

## 5. CHANNEL RECEIVE LEVELS

Channel 1	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0 dbm</u>
Channel 2	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0 dbm</u>
Channel 3	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0 dbm</u>
Channel 4	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0 dbm</u>
Channel 5	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0 dbm</u>
Channel 6	( $\pm 7$ dbm $\pm 0.5$ db)	<u>6.9 dbm</u>
Channel 7	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0 dbm</u>
Channel 8	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0 dbm</u>
Channel 9	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0 dbm</u>
Channel 10	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0 dbm</u>
Channel 11	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0 dbm</u>
Channel 12	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0 dbm</u>

## 6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels	1	2	3	4	5	6	7	8	9	10	11	12
Frequency												
300	6.0	6.4	6.3	6.7	7.5	4.4	6.8	5.2	5.0	7.5	5.0	5.8 dbm
400	6.3	6.8	6.5	6.8	7.2	6.0	7.0	6.3	6.1	7.6	6.5	6.8 dbm
600	7.2	7.3	7.4	7.4	7.5	7.4	7.5	7.4	7.4	7.7	7.6	7.2 dbm
750	7.1	7.2	7.3	7.4	7.3	7.3	7.5	7.3	7.3	7.2	7.4	7.0 dbm
1000	7.0	7.0	7.0	7.0	7.0	6.9	7.0	7.0	7.0	7.0	7.0	7.0 dbm
1250	6.9	6.8	7.0	6.5	7.0	6.7	6.9	6.9	6.9	7.0	7.0	6.9 dbm



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**FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST**

STATION TKGTransmission Path: From Station TKG To Station TCOMultiplex Group No. 7**CHANNEL FREQUENCY RESPONSE (continued)**

Channels	EXPECTED					ACTUAL							
	1	2	3	4	5	6	7	8	9	10	11	12	
Frequency													
1500	<u>6.7</u>	<u>6.8</u>	<u>7.0</u>	<u>6.5</u>	<u>7.1</u>	<u>7.0</u>	<u>7.1</u>	<u>7.0</u>	<u>7.0</u>	<u>7.1</u>	<u>7.1</u>	<u>6.8</u>	dbm
1750	<u>6.5</u>	<u>6.6</u>	<u>7.0</u>	<u>6.7</u>	<u>7.2</u>	<u>6.8</u>	<u>7.0</u>	<u>7.0</u>	<u>7.0</u>	<u>7.0</u>	<u>7.0</u>	<u>6.7</u>	dbm
2000	<u>6.4</u>	<u>6.6</u>	<u>6.9</u>	<u>6.3</u>	<u>7.1</u>	<u>6.6</u>	<u>6.9</u>	<u>7.1</u>	<u>7.4</u>	<u>7.0</u>	<u>6.9</u>	<u>6.8</u>	dbm
2250	<u>6.4</u>	<u>6.4</u>	<u>6.9</u>	<u>6.3</u>	<u>7.1</u>	<u>6.7</u>	<u>6.6</u>	<u>7.1</u>	<u>7.7</u>	<u>7.1</u>	<u>6.8</u>	<u>6.8</u>	dbm
2400	<u>6.4</u>	<u>6.4</u>	<u>7.0</u>	<u>6.4</u>	<u>7.2</u>	<u>6.8</u>	<u>6.5</u>	<u>7.1</u>	<u>7.7</u>	<u>7.2</u>	<u>6.8</u>	<u>6.8</u>	dbm
2750	<u>6.8</u>	<u>6.5</u>	<u>6.9</u>	<u>6.5</u>	<u>7.0</u>	<u>7.0</u>	<u>6.8</u>	<u>7.0</u>	<u>7.7</u>	<u>7.4</u>	<u>6.5</u>	<u>6.5</u>	dbm
3000	<u>7.3</u>	<u>6.3</u>	<u>6.7</u>	<u>6.0</u>	<u>6.8</u>	<u>6.6</u>	<u>6.9</u>	<u>6.8</u>	<u>7.6</u>	<u>6.8</u>	<u>5.9</u>	<u>7.0</u>	dbm
3200	<u>7.5</u>	<u>6.0</u>	<u>6.0</u>	<u>5.9</u>	<u>7.0</u>	<u>6.0</u>	<u>7.0</u>	<u>6.7</u>	<u>7.7</u>	<u>6.3</u>	<u>5.8</u>	<u>6.8</u>	dbm
3300	<u>7.7</u>	<u>6.0</u>	<u>5.9</u>	<u>5.9</u>	<u>7.1</u>	<u>6.0</u>	<u>6.9</u>	<u>6.4</u>	<u>7.6</u>	<u>6.3</u>	<u>5.8</u>	<u>6.0</u>	dbm
3400	<u>7.6</u>	<u>6.0</u>	<u>5.5</u>	<u>5.8</u>	<u>6.8</u>	<u>6.0</u>	<u>6.8</u>	<u>6.0</u>	<u>7.3</u>	<u>6.3</u>	<u>5.8</u>	<u>4.7</u>	dbm

**LIMITS WITH RESPECT TO 1 KC LEVEL**

- 300-399 cps (+ 0.75 db, -2.9 db)
- 400-599 cps (+ 0.75 db, -1.5 db)
- 600-2400 cps (+0.75 db, -0.75 db)
- 2401-3000 cps (+0.75 db, -1.5 db)
- 3001-3400 cps (+0.75 db, -2.9 db)

**NOTE:** If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKG  
Transmission Path: From TKG Station to TCO Station  
Multiplex Group No. 7

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 1

S

-16 dbm ref. -14 dbm -2dbm

Channel 2

e

7.0 dbm 9.1 dbm 13.0 dbm

Channel 3

e

7.0 dbm 9.0 dbm 12.9 dbm

Channel 4

B

7.0 dbm 9.1 dbm 13.1 dbm

Channel 5

e

7.0 dbm 9.0 dbm 12.4 dbm

Channel 6

l

7.0 dbm 9.0 dbm 12.8 dbm

Channel 7

o

7.0 dbm 9.0 dbm 13.2 dbm

Channel 8

w

7.0 dbm 9.0 dbm 13.0 dbm

Channel 9

7.0 dbm 9.2 dbm 13.3 dbm

Channel 10

7.0 dbm 9.2 dbm 13.3 dbm

Channel 11

7.0 dbm 9.1 dbm 13.0 dbm

Channel 12

7.0 dbm 9.2 dbm 13.7 dbm7.0 dbm 9.3 dbm 13.0 dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 10 December 1963TESTER [Signature]SUPERVISOR [Signature]QUALITY ASSURANCE [Signature]GEEIA [Signature]



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKGTransmission Path: From TKG Station to TES StationMultiplex Group No. #8

		EXPECTED	ACTUAL
1.	GROUP INPUT LEVEL		
	Channel 1 63 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.9 mv</u>
	Channel 2 67 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 3 71 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 4 75 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 5 79 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 6 83 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 7 87 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 8 91 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 9 95 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 10 99 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 11 103 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
	Channel 12 107 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
2.	CHANNEL SIGNALLING LEVEL AT GROUP INPUT		
	Channel 1 60.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
	Channel 2 64.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
	Channel 3 68.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
	Channel 4 72.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
	Channel 5 76.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
	Channel 6 80.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
	Channel 7 84.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
	Channel 8 88.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
	Channel 9 92.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
	Channel 10 96.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
	Channel 11 100.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
	Channel 12 104.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A mv</u>
3.	GROUP TRANSMIT LEVEL		
	MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>13.7 mv</u>
	A(V) Stations		
	MW503A LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>N/A mv</u>



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FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKGTransmission Path From Station TKG To Station TESMultiplex Group No. #8

EXPECTED ACTUAL

## 4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv)13.4 mv

MW-503A LOS (except GPA)

(15.5 mv  $\pm$  1.8 mv)N/A mv

MW-503A LOS (GPA only)

(7.7 mv  $\pm$  1.0 mv)N/A mv

GRP OUT (TP-4)

(18.0 mv  $\pm$  1.0 mv)18.0 mv

## 5. CHANNEL RECEIVE LEVELS

Channel 1

( $\pm$ 7 dbm  $\pm$  0.5 db)7.0 dbm

Channel 2

( $\pm$ 7 dbm  $\pm$  0.5 db)7.0 dbm

Channel 3

( $\pm$ 7 dbm  $\pm$  0.5 db)7.0 dbm

Channel 4

( $\pm$ 7 dbm  $\pm$  0.5 db)7.0 dbm

Channel 5

( $\pm$ 7 dbm  $\pm$  0.5 db)7.0 dbm

Channel 6

( $\pm$ 7 dbm  $\pm$  0.5 db)7.0 dbm

Channel 7

( $\pm$ 7 dbm  $\pm$  0.5 db)7.0 dbm

Channel 8

( $\pm$ 7 dbm  $\pm$  0.5 db)7.0 dbm

Channel 9

( $\pm$ 7 dbm  $\pm$  0.5 db)7.0 dbm

Channel 10

( $\pm$ 7 dbm  $\pm$  0.5 db)7.0 dbm

Channel 11

( $\pm$ 7 dbm  $\pm$  0.5 db)7.0 dbm

Channel 12

( $\pm$ 7 dbm  $\pm$  0.5 db)7.0 dbm

## 6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels

1 2 3 4 5 6 7 8 9 10 11 12

Frequency

300		7.2	5.5	6.2	6.8	4.7	7.1	6.8	6.5	4.9	5.0	5.0	5.6	dbm
400	S	7.6	7.0	7.2	7.3	6.8	7.3	7.3	6.8	6.5	6.5	6.5	6.9	dbm
600	e	7.7	7.7	7.7	7.7	7.7	7.7	7.4	7.4	7.7	7.7	7.7	7.2	dbm
750	B	7.3	7.6	7.5	7.5	7.5	7.6	7.2	7.3	7.4	7.5	7.5	7.0	dbm
1000	e	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	dbm
1250	l	6.8	7.0	7.2	6.8	7.0	7.1	6.8	6.8	7.0	7.0	6.9	6.8	dbm
	w													



**FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST**

STATION TKGTransmission Path: From Station TKG To Station TESMultiplex Group No. #8**CHANNEL FREQUENCY RESPONSE (continued)**

Channels	EXPECTED					ACTUAL							
	1	2	3	4	5	6	7	8	9	10	11	12	
Frequency													
1500	<u>7.0</u>	<u>7.0</u>	<u>7.4</u>	<u>7.2</u>	<u>7.7</u>	<u>7.3</u>	<u>6.8</u>	<u>7.3</u>	<u>7.2</u>	<u>7.2</u>	<u>7.1</u>	<u>6.9</u>	dbm
1750	<u>7.1</u>	<u>7.0</u>	<u>7.6</u>	<u>7.0</u>	<u>7.6</u>	<u>7.0</u>	<u>6.5</u>	<u>7.7</u>	<u>7.0</u>	<u>7.3</u>	<u>7.0</u>	<u>6.8</u>	dbm
2000	<u>7.2</u>	<u>7.0</u>	<u>7.5</u>	<u>6.8</u>	<u>7.4</u>	<u>7.1</u>	<u>6.5</u>	<u>7.6</u>	<u>7.0</u>	<u>7.5</u>	<u>6.9</u>	<u>6.7</u>	dbm
2250	<u>7.2</u>	<u>7.0</u>	<u>7.0</u>	<u>6.8</u>	<u>7.6</u>	<u>7.1</u>	<u>6.3</u>	<u>7.4</u>	<u>6.9</u>	<u>7.5</u>	<u>6.9</u>	<u>6.6</u>	dbm
2400	<u>7.1</u>	<u>7.2</u>	<u>7.3</u>	<u>6.8</u>	<u>7.7</u>	<u>7.2</u>	<u>6.3</u>	<u>7.4</u>	<u>6.9</u>	<u>7.7</u>	<u>6.9</u>	<u>6.7</u>	dbm
2750	<u>6.9</u>	<u>7.0</u>	<u>7.5</u>	<u>6.9</u>	<u>7.5</u>	<u>7.6</u>	<u>7.0</u>	<u>7.0</u>	<u>6.8</u>	<u>7.4</u>	<u>7.0</u>	<u>6.9</u>	dbm
3000	<u>6.5</u>	<u>6.5</u>	<u>7.3</u>	<u>6.8</u>	<u>7.2</u>	<u>7.3</u>	<u>7.1</u>	<u>7.0</u>	<u>6.7</u>	<u>7.0</u>	<u>6.5</u>	<u>7.0</u>	dbm
3200	<u>6.3</u>	<u>5.8</u>	<u>7.2</u>	<u>6.3</u>	<u>7.2</u>	<u>6.8</u>	<u>7.1</u>	<u>6.8</u>	<u>6.9</u>	<u>6.5</u>	<u>6.0</u>	<u>6.9</u>	dbm
3300	<u>6.2</u>	<u>5.3</u>	<u>7.0</u>	<u>6.3</u>	<u>7.4</u>	<u>6.6</u>	<u>7.0</u>	<u>6.7</u>	<u>7.0</u>	<u>6.3</u>	<u>5.9</u>	<u>6.7</u>	dbm
3400	<u>6.0</u>	<u>5.0</u>	<u>6.2</u>	<u>6.3</u>	<u>7.4</u>	<u>6.3</u>	<u>6.6</u>	<u>6.5</u>	<u>7.0</u>	<u>6.2</u>	<u>5.8</u>	<u>6.0</u>	dbm

**LIMITS WITH RESPECT TO 1 KC LEVEL**

- 300-399 cps (+ 0.75 db, -2.9 db)
- 400-599 cps (+ 0.75 db, -1.5 db)
- 600-2400 cps (+0.75 db, -0.75 db)
- 2401-3000 cps (+0.75 db, -1.5 db)
- 3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.







FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKGTransmission Path: From TKG Station to TKR StationMultiplex Group No. 9

EXPECTED

ACTUAL

## 1. GROUP INPUT LEVEL

Channel 1	63 kc 107	(7.8 mv $\pm$ 0.8 mv)	<u>7.80 mv</u>
Channel 2	67 kc 103	(7.8 mv $\pm$ 0.8 mv)	<u>7.80 mv</u>
Channel 3	71 kc 99	(7.8 mv $\pm$ 0.8 mv)	<u>7.80 mv</u>
Channel 4	75 kc 95	(7.8 mv $\pm$ 0.8 mv)	<u>7.80 mv</u>
Channel 5	79 kc 91	(7.8 mv $\pm$ 0.8 mv)	<u>7.80 mv</u>
Channel 6	83 kc 87	(7.8 mv $\pm$ 0.8 mv)	<u>7.80 mv</u>
Channel 7	87 kc 83	(7.8 mv $\pm$ 0.8 mv)	<u>7.80 mv</u>
Channel 8	91 kc 79	(7.8 mv $\pm$ 0.8 mv)	<u>7.80 mv</u>
Channel 9	95 kc 75	(7.8 mv $\pm$ 0.8 mv)	<u>7.80 mv</u>
Channel 10	99 kc 71	(7.8 mv $\pm$ 0.8 mv)	<u>7.80 mv</u>
Channel 11	103 kc 67	(7.8 mv $\pm$ 0.8 mv)	<u>7.80 mv</u>
Channel 12	107 kc 63	(7.8 mv $\pm$ 0.8 mv)	<u>7.80 mv</u>

## 2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT :

Channel 1	104 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.04 mv</u>
Channel 2	103 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.04 mv</u>
Channel 3	102 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.04 mv</u>
Channel 4	101 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.04 mv</u>
Channel 5	100 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.04 mv</u>
Channel 6	99 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.04 mv</u>
Channel 7	98 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.04 mv</u>
Channel 8	97 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.04 mv</u>
Channel 9	96 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.04 mv</u>
Channel 10	95 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.04 mv</u>
Channel 11	94 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.04 mv</u>
Channel 12	93 125 kc	(.125 mv $\pm$ 0.02 mv)	<u>0.04 mv</u>

## 3. GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>N/A mv</u>
A(V) Stations		
MW503A LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>4.90 mv</u>



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKGTransmission Path From Station TKG To Station TKRMultiplex Group No. - 9

EXPECTED ACTUAL

## 4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv)N/A mvMW-503A LOS (except GPA)  
MW-503A LOS (GPA only)(15.5 mv  $\pm$  1.8 mv)  
(7.7 mv  $\pm$  1.0 mv)  
(18.0 mv  $\pm$  1.0 mv)15.5 mv  
N/A mv  
18.0 mv

## 5. CHANNEL RECEIVE LEVELS

Channel	EXPECTED	ACTUAL
Channel 1	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0</u> dbm
Channel 2	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0</u> dbm
Channel 3	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0</u> dbm
Channel 4	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0</u> dbm
Channel 5	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0</u> dbm
Channel 6	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0</u> dbm
Channel 7	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0</u> dbm
Channel 8	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0</u> dbm
Channel 9	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0</u> dbm
Channel 10	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0</u> dbm
Channel 11	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0</u> dbm
Channel 12	( $\pm 7$ dbm $\pm 0.5$ db)	<u>7.0</u> dbm

## 6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels	1	2	3	4	5	6	7	8	9	10	11	12
Frequency												
300			<u>7.5</u>				<u>4.4</u>				<u>7.6</u>	dbm
400	S		<u>7.5</u>				<u>6.2</u>				<u>7.6</u>	dbm
600	e		<u>7.5</u>				<u>7.5</u>				<u>7.7</u>	dbm
750	B		<u>7.5</u>				<u>7.5</u>				<u>7.5</u>	dbm
1000	e		<u>7.0</u>				<u>7.0</u>				<u>7.0</u>	dbm
1250	l		<u>7.5</u>				<u>7.3</u>				<u>7.5</u>	dbm
	o											
	w											



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKGTransmission Path: From Station TKG To Station TKRMultiplex Group No. 9

## CHANNEL FREQUENCY RESPONSE (continued)

Channels Frequency	EXPECTED					ACTUAL							
	1	2	3	4	5	6	7	8	9	10	11	12	
1500			7.5				7.5				7.5		dbm
1750			7.5				7.6				7.5		dbm
2000			7.5				7.7				7.3		dbm
2250			7.5				7.5				7.3		dbm
2400			7.5				7.7				7.4		dbm
2750			7.6				7.9				7.2		dbm
3000			7.6				7.7				7.2		dbm
3200			7.7				7.6				6.9		dbm
3300			7.5				7.5				7.0		dbm
3400			7.0				6.5				7.2		dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

- 300-399 cps (+ 0.75 db, -2.9 db)  
 400-599 cps (+ 0.75 db, -1.5 db)  
 600-2400 cps (+0.75 db, -0.75 db)  
 2401-3000 cps (+0.75 db, -1.5 db)  
 3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKGTransmission Path; From TKG Station to TKR StationMultiplex Group No. 9

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 1

S

-16 dbm ref. -14 dbm -2dbm

Channel 2

e

       dbm        dbm        dbm

Channel 3

B

       dbm        dbm        dbm

Channel 4

e

7.0 dbm 9.7 dbm 14.0 dbm

Channel 5

l

       dbm        dbm        dbm

Channel 6

o

       dbm        dbm        dbm

Channel 7

w

       dbm        dbm        dbm

Channel 8

7.0 dbm 9.7 dbm 13.6 dbm

Channel 9

       dbm        dbm        dbm

Channel 10

       dbm        dbm        dbm

Channel 11

       dbm        dbm        dbm

Channel 12

7.2 dbm 9.8 dbm 13.2 dbm       dbm        dbm        dbm

## LIMITS

- a. Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- b. Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 25 OCTOBER 1963TESTER [Signature]SUPERVISOR [Signature]QUALITY ASSURANCE [Signature]GEEIA [Signature]



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TALTransmission Path: From TAL Station to TKG StationMultiplex Group No. 1

EXPECTED

ACTUAL

## 1. GROUP INPUT LEVEL

Channel 1	<del>-63-kc</del> <b>D7 kc</b>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 2	<del>-67-kc</del> <b>103 kc</b>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 3	<del>-71-kc</del> <b>99 kc</b>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 4	<del>-75-kc</del> <b>95 kc</b>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 5	<del>-79-kc</del> <b>91 kc</b>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 6	<del>-83-kc</del> <b>87 kc</b>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 7	<del>-87-kc</del> <b>83 kc</b>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 8	<del>-91-kc</del> <b>79 kc</b>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 9	<del>-95-kc</del> <b>75 kc</b>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 10	<del>-99-kc</del> <b>71 kc</b>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 11	<del>-103-kc</del> <b>67 kc</b>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 12	<del>-107-kc</del> <b>63 kc</b>	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv

## 2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

Channel 1	<del>-60-125-kc</del> <b>104.125</b>	25 mv $\pm$ 0.02 mv)	<u>-66</u> mv
Channel 2	<del>-64-125-kc</del> <b>100.125</b>	25 mv $\pm$ 0.02 mv)	<u>-66</u> mv
Channel 3	<del>-68-125-kc</del> <b>96.125</b>	25 mv $\pm$ 0.02 mv)	<u>-66</u> mv
Channel 4	<del>-72-125-kc</del> <b>92.125</b>	25 mv $\pm$ 0.02 mv)	<u>-66</u> mv
Channel 5	<del>-76-125-kc</del> <b>88.125</b>	25 mv $\pm$ 0.02 mv)	<u>-66</u> mv
Channel 6	<del>-80-125-kc</del> <b>84.125</b>	25 mv $\pm$ 0.02 mv)	<u>-66</u> mv
Channel 7	<del>-84-125-kc</del> <b>80.125</b>	25 mv $\pm$ 0.02 mv)	<u>-66</u> mv
Channel 8	<del>-88-125-kc</del> <b>76.125</b>	25 mv $\pm$ 0.02 mv)	<u>-66</u> mv
Channel 9	<del>-92-125-kc</del> <b>72.125</b>	25 mv $\pm$ 0.02 mv)	<u>-66</u> mv
Channel 10	<del>-96-125-kc</del> <b>68.125</b>	25 mv $\pm$ 0.02 mv)	<u>-66</u> mv
Channel 11	<del>-100-125-kc</del> <b>64.125</b>	25 mv $\pm$ 0.02 mv)	<u>-66</u> mv
Channel 12	<del>-104-125-kc</del> <b>60.125</b>	25 mv $\pm$ 0.02 mv)	<u>-66</u> mv

## 3. GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>N/A</u> mv
A(V) Stations		
MW503A LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>4.9</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TAL  
Transmission Path From Station TAL To Station TKG  
Multiplex Group No. - 1

	EXPECTED	ACTUAL
4. GROUP RECEIVE LEVEL		
GRP IN (TP-7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7 mv $\pm$ 1.5 mv)	N/A mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 1.8 mv)	15.5 mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 1.0 mv)	N/A mv
GRP OUT (TP-4)	(18.0 mv $\pm$ 1.0 mv)	18 mv

## 5. CHANNEL RECEIVE LEVELS

Channel	EXPECTED	ACTUAL
Channel 1	( $\pm 7$ dbm $\pm 0.5$ db)	+7 dbm
Channel 2	( $\pm 7$ dbm $\pm 0.5$ db)	+7 dbm
Channel 3	( $\pm 7$ dbm $\pm 0.5$ db)	+7 dbm
Channel 4	( $\pm 7$ dbm $\pm 0.5$ db)	+7 dbm
Channel 5	( $\pm 7$ dbm $\pm 0.5$ db)	+7 dbm
Channel 6	( $\pm 7$ dbm $\pm 0.5$ db)	+7 dbm
Channel 7	( $\pm 7$ dbm $\pm 0.5$ db)	+7 dbm
Channel 8	( $\pm 7$ dbm $\pm 0.5$ db)	+7 dbm
Channel 9	( $\pm 7$ dbm $\pm 0.5$ db)	+7 dbm
Channel 10	( $\pm 7$ dbm $\pm 0.5$ db)	+7 dbm
Channel 11	( $\pm 7$ dbm $\pm 0.5$ db)	+7 dbm
Channel 12	( $\pm 7$ dbm $\pm 0.5$ db)	+7 dbm

## 6. CHANNEL FREQUENCY RESPONSE

		EXPECTED	ACTUAL											
Channels			1	2	3	4	5	6	7	8	9	10	11	12
Frequency														
300			5.5	7.5	5.1	7.4	5.1	7.6	4.8	7.7	7.6	5.2	7.7	4.6 dbm
400	S		6.5	7.1	6.6	7.1	6.4	6.5	5.9	7	6.8	6.9	7	7.6 dbm
600	e		7	7.6	7.5	7.3	7.3	7	6.8	7.1	7.4	7.6	7.2	6.7 dbm
750	B		7	7.5	7.1	6.9	7	7	6.8	7	7.2	7	7	6.7 dbm
1000	o		7	7	7	7	7	7	7	7	7	7	7	7 dbm
1250	l		7	6.7	7	7.1	7	6.4	7	6.8	7	7	7.3	7 dbm
	w													



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
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MC-50 MULTIPLEX LINK TEST

STATION TALTransmission Path: From Station TAL To Station TKG

Multiplex Group No. \_\_\_\_\_

## CHANNEL FREQUENCY RESPONSE (continued)

Channels	EXPECTED					ACTUAL							
	1	2	3	4	5	6	7	8	9	10	11	12	
Frequency													
1500	<u>7.8</u>	<u>6.8</u>	<u>7.2</u>	<u>7.6</u>	<u>7.2</u>	<u>6.4</u>	<u>7</u>	<u>7</u>	<u>7.2</u>	<u>7.3</u>	<u>7.5</u>	<u>7</u>	dbm
1750	<u>6.7</u>	<u>6.6</u>	<u>7.3</u>	<u>7.3</u>	<u>7.7</u>	<u>6.1</u>	<u>6.9</u>	<u>7.2</u>	<u>7.2</u>	<u>7.3</u>	<u>7</u>	<u>7</u>	dbm
2000	<u>7.5</u>	<u>6.6</u>	<u>7.2</u>	<u>7.5</u>	<u>7.4</u>	<u>5.9</u>	<u>6.6</u>	<u>7</u>	<u>7</u>	<u>7.2</u>	<u>6.8</u>	<u>7</u>	dbm
2250	<u>6.8</u>	<u>6.8</u>	<u>7.4</u>	<u>7.3</u>	<u>7.3</u>	<u>5.9</u>	<u>6.5</u>	<u>7</u>	<u>6.9</u>	<u>7.2</u>	<u>6.8</u>	<u>6.8</u>	dbm
2400	<u>7.2</u>	<u>7.1</u>	<u>7.6</u>	<u>7.4</u>	<u>7.4</u>	<u>6.1</u>	<u>6.6</u>	<u>7</u>	<u>6.9</u>	<u>7.5</u>	<u>7</u>	<u>6.7</u>	dbm
2750	<u>7.3</u>	<u>7.1</u>	<u>7.5</u>	<u>7.1</u>	<u>7</u>	<u>6.2</u>	<u>7</u>	<u>6.8</u>	<u>6.9</u>	<u>7.7</u>	<u>7.3</u>	<u>5.7</u>	dbm
3000	<u>7.3</u>	<u>6.7</u>	<u>7.3</u>	<u>7</u>	<u>6.5</u>	<u>5.8</u>	<u>7.5</u>	<u>6.5</u>	<u>6.9</u>	<u>7.3</u>	<u>7</u>	<u>5.4</u>	dbm
3200	<u>7.6</u>	<u>6.7</u>	<u>7.1</u>	<u>7.3</u>	<u>6.7</u>	<u>5.5</u>	<u>7.6</u>	<u>6.2</u>	<u>7.1</u>	<u>7.4</u>	<u>7</u>	<u>5</u>	dbm
3300	<u>7.5</u>	<u>6.9</u>	<u>7.1</u>	<u>7.6</u>	<u>7</u>	<u>5.3</u>	<u>7.2</u>	<u>6</u>	<u>7.1</u>	<u>7.6</u>	<u>7</u>	<u>5.5</u>	dbm
3400	<u>6.2</u>	<u>6.9</u>	<u>6.5</u>	<u>7.6</u>	<u>6.7</u>	<u>5.3</u>	<u>6.5</u>	<u>4.8</u>	<u>6.8</u>	<u>7.75</u>	<u>6.8</u>	<u>5.5</u>	dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

- 300-399 cps ( $\pm$  0.75 db, -2.9 db)  
 400-599 cps (+ 0.75 db, -1.5 db)  
 600-2400 cps (+0.75 db, -0.75 db)  
 2401-3000 cps (+0.75 db, -1.5 db)  
 3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TALTransmission Path; From TAL Station to TKG StationMultiplex Group No. 1

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 1

Channel 2

Channel 3

Channel 4

Channel 5

Channel 6

Channel 7

Channel 8

Channel 9

Channel 10

Channel 11

Channel 12

S  
e  
e  
B  
e  
l  
o  
w

Channel	Expected	Actual
Channel 1	-16 dbm ref.	-14 dbm -2dbm
Channel 2	7 dbm	9.1 dbm 13.5 dbm
Channel 3	7 dbm	9.3 dbm 13.3 dbm
Channel 4	7 dbm	9.1 dbm 12.6 dbm
Channel 5	7 dbm	9.2 dbm 12 dbm
Channel 6	7 dbm	8.8 dbm 11.7 dbm
Channel 7	7 dbm	8.8 dbm 13.3 dbm
Channel 8	7 dbm	8.7 dbm 12.5 dbm
Channel 9	7 dbm	9.1 dbm 14.3 dbm
Channel 10	7 dbm	9 dbm 11.7 dbm
Channel 11	7 dbm	9 dbm 12.5 dbm
Channel 12	7 dbm	9 dbm 12 dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 13 DECEMBER, 1963TESTER [Signature]SUPERVISOR [Signature]QUALITY ASSURANCE [Signature]GEMMA Ralph S. Kruger



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TCOTransmission Path: From TCO Station to TKG StationMultiplex Group No. ONE

EXPECTED

ACTUAL

## 1. GROUP INPUT LEVEL

(NOTE: CHAN FREQ REVERSED)

Channel 1	63 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 2	67 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 3	71 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 4	75 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 5	79 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 6	83 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 7	87 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 8	91 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 9	95 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 10	99 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 11	103 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 12	107 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>

## 2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

-66db  $\pm$  1 db (.4mv)

Channel 1	60.125 kc	(-66 db $\pm$ 1 db)	<u>-66 mv db</u>
Channel 2	64.125 kc	(-66 db $\pm$ 1 db)	<u>-66 mv db</u>
Channel 3	68.125 kc	(-66 db $\pm$ 1 db)	<u>-66 mv db</u>
Channel 4	72.125 kc	(-66 db $\pm$ 1 db)	<u>-66 mv db</u>
Channel 5	76.125 kc	(-66 db $\pm$ 1 db)	<u>-66 mv db</u>
Channel 6	80.125 kc	(-66 db $\pm$ 1 db)	<u>-66 mv db</u>
Channel 7	84.125 kc	(-66 db $\pm$ 1 db)	<u>-66 mv db</u>
Channel 8	88.125 kc	(-66 db $\pm$ 1 db)	<u>-66 mv db</u>
Channel 9	92.125 kc	(-66 db $\pm$ 1 db)	<u>-66 mv db</u>
Channel 10	96.125 kc	(-66 db $\pm$ 1 db)	<u>-66 mv db</u>
Channel 11	100.125 kc	(-66 db $\pm$ 1 db)	<u>-66 mv db</u>
Channel 12	104.125 kc	(-66 db $\pm$ 1 db)	<u>-66 mv db</u>

## 3. GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>13.7 mv</u>
A(V) Stations		
MW503A, LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>N/A mv</u>



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TCOTransmission Path From Station TCO To Station TKGMultiplex Group No. - ONE

EXPECTED ACTUAL

## 4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv)14 mv

MW-503A LOS (except GPA)

(15.5 mv  $\pm$  1.8 mv)

N/A mv

MW-503A LOS (GPA only)

(7.7 mv  $\pm$  1.0 mv)N/A mv

GRP OUT (TP-4)

(18.0 mv  $\pm$  1.0 mv)18 mv

## 5. CHANNEL RECEIVE LEVELS

Channel 1

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm

Channel 2

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm

Channel 3

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm

Channel 4

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm

Channel 5

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm

Channel 6

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm

Channel 7

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm

Channel 8

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm

Channel 9

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm

Channel 10

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm

Channel 11

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm

Channel 12

( $\pm 7$  dbm  $\pm 0.5$  db)+7 dbm

## 6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels

1 2 3 4 5 6 7 8 9 10 11 12

Frequency

300

6 7.5 6.5 6.9 7.2 6.9 7.2 7.6 7.3 7.4 7.3 4.8 dbm

400

S

6.3 7.5 6.5 7.1 7.3 7.1 7.2 7.4 7.2 7.6 7.3 6.7 dbm

600

e

7 7.6 7.5 7.5 7.5 7.5 7.5 7.5 7.6 7.6 7.7 7.5 dbm

750

B

7 7.6 7.4 7.3 7.4 7.5 7.4 7.4 7.4 7.4 7.4 6.9 dbm

1000

e

7 7 7 7 7 7 7 7 7 7 7 7 dbm

1250

0

7 6.9 7 7 7 7.3 7 7.2 7 7.1 7.2 7.1 dbm

w



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TCOTransmission Path: From Station TCO To Station TKG

Multiplex Group No. \_\_\_\_\_

## CHANNEL FREQUENCY RESPONSE (continued)

Channels Frequency	EXPECTED				ACTUAL								
	1	2	3	4	5	6	7	8	9	10	11	12	
1500	7.3	7	7.2	7.4	7.3	7.6	7.4	7.6	7.4	7.5	7.4	7.3	dbm
1750	7.5	7	7	7.5	6.9	7.5	7.5	7.6	7.3	7.4	7.2	7.3	dbm
2000	7.6	7	7.1	7.3	7	7.5	7.3	7.6	7.4	7.4	6.9	7.4	dbm
2250	7.6	7.2	7.2	7.1	7.4	7.5	7.1	7.5	7.4	7.4	6.9	7.5	dbm
2400	7.7	7.5	7.4	7.2	7.5	7.5	7.3	7.5	7.4	7.5	7	7.6	dbm
2750	7.7	7	7.7	7.5	7.6	7.4	7.6	7.7	7.5	7.7	7.3	7.7	dbm
3000	7.1	6.9	7.5	7	7	6.9	7.2	7.7	7.5	7.4	6.9	7.2	dbm
3200	7.4	6.7	7.5	7	7.1	7.4	7.3	7.6	7.7	7.1	6.9	7.2	dbm
3300	7.5	6.5	7.3	7.3	7.4	7.5	6.9	7.5	7.7	7.1	7	6.7	dbm
3400	7.3	6.3	6.6	7.5	7.5	7.5	6.4	7.2	7.4	7.3	7	5.5	dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

- 300-399 cps (+ 0.75 db, -2.9 db)  
 400-599 cps (+ 0.75 db, -1.5 db)  
 600-2400 cps (+0.75 db, -0.75 db)  
 2401-3000 cps (+0.75 db, -1.5 db)  
 3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TCOTransmission Path; From TCO Station to TKG StationMultiplex Group No. ONE

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 1

Channel 2

Channel 3

Channel 4

Channel 5

Channel 6

Channel 7

Channel 8

Channel 9

Channel 10

Channel 11

Channel 12

S  
e  
e  
B  
e  
l  
o  
w

-16 dbm ref. -14 dbm -2dbm  
+7 dbm 9 dbm 13.5 dbm  
+7 dbm 9 dbm 13.7 dbm  
+7 dbm 9 dbm 14 dbm  
+7 dbm 9 dbm 13.5 dbm  
+7 dbm 9 dbm 13.5 dbm  
+7 dbm 9 dbm 13.6 dbm  
+7 dbm 9 dbm 13.6 dbm  
+7 dbm 9.1 dbm 13 dbm  
+7 dbm 9 dbm 13 dbm  
+7 dbm 9 dbm 13 dbm  
+7 dbm 9 dbm 13.7 dbm  
+7 dbm 9 dbm 13.5 dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 10 DEC. 1963TESTER K. N. ManesSUPERVISOR J. H. T. H.QUALITY ASSURANCE J. H. T. H.GEEIA Ralph L. Burger



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TCOTransmission Path From Station TCO (RECEIVE) To Station GIM (TRANSMIT)Multiplex Group No. -CHAN.ONE THROUGH FOUR, LOW GROUP

EXPECTED ACTUAL

## GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv)N/A mv

MW-503A LOS (except GPA)

(15.5 mv  $\pm$  1.8 mv)N/A mv

MW-503A LOS (GPA only)

(7.7 mv  $\pm$  1.0 mv)N/A mv

GRP OUT (TP-4)

(18.0 mv  $\pm$  1.0 mv)N/A mv

## CHANNEL RECEIVE LEVELS

Channel	EXPECTED	ACTUAL
Channel 1	( $\pm 7$ dbm $\pm 0.5$ db)	<u>N/A</u> dbm
Channel 2	( $\pm 7$ dbm $\pm 0.5$ db)	<u>N/A</u> dbm
Channel 3	( $\pm 7$ dbm $\pm 0.5$ db)	<u>N/A</u> dbm
Channel 4	( $\pm 7$ dbm $\pm 0.5$ db)	<u>N/A</u> dbm
Channel 5	( $\pm 7$ dbm $\pm 0.5$ db)	<u>N/A</u> dbm
Channel 6	( $\pm 7$ dbm $\pm 0.5$ db)	<u>N/A</u> dbm
Channel 7	( $\pm 7$ dbm $\pm 0.5$ db)	<u>N/A</u> dbm
Channel 8	( $\pm 7$ dbm $\pm 0.5$ db)	<u>N/A</u> dbm
Channel 9	( $\pm 7$ dbm $\pm 0.5$ db)	<u>N/A</u> dbm
Channel 10	( $\pm 7$ dbm $\pm 0.5$ db)	<u>N/A</u> dbm
Channel 11	( $\pm 7$ dbm $\pm 0.5$ db)	<u>N/A</u> dbm
Channel 12	( $\pm 7$ dbm $\pm 0.5$ db)	<u>N/A</u> dbm

## 6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels	1	2	3	4	5	6	7	8	1	2	3	4
Frequency	GIM TRANSMIT TCO RECEIVE								GIM RECEIVE TCO TRANSMIT			
300	1.5	7.8	+5	6.5					6.1	4.8	7	4.8
400	5	8.2	+5	7.5					6.8	6.4	7	6.8
600	7	8.5	+8	8.2					7.8	8.6	7	6.8
750	7	7.25	+8	8.2					7.8	8.6	6.9	7.8
1000	7	7	+7	7					7	7	7	7
1250	7	7	+7.75	7.5					6	6.5	7.1	7.4



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MC-50 MULTIPLEX LINK TEST

STATION TCOTransmission Path: From Station TCO To Station GIMMultiplex Group No. CHAN. ONE THROUGH FOUR, LOW GROUP

## CHANNEL FREQUENCY RESPONSE (continued)

Channels	EXPECTED					ACTUAL				1	2	3	4	
	1	2	3	4	5	6	7	8	9	10	11	12		
Frequency	GIM TRANSMIT TCO RECEIVE					GIM RECEIVE TCO TRANSMIT								
1500	<u>7.7</u>	<u>7.5</u>	<u>+8.25</u>	<u>8</u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>6.2</u>	<u>6.9</u>	<u>7</u>	<u>7.4</u>	dbm
1750	<u>8</u>	<u>6.5</u>	<u>+7.8</u>	<u>7</u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>6.9</u>	<u>6.1</u>	<u>6.6</u>	<u>7.2</u>	dbm
2000	<u>8.5</u>	<u>6.8</u>	<u>+7.8</u>	<u>7</u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>7</u>	<u>6.7</u>	<u>6.5</u>	<u>6.4</u>	dbm
2250	<u>8.4</u>	<u>7.7</u>	<u>+7.75</u>	<u>7.5</u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>7</u>	<u>6.8</u>	<u>6.6</u>	<u>6.0</u>	dbm
2400	<u>7</u>	<u>8.5</u>	<u>+8</u>	<u>8</u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>7</u>	<u>7.5</u>	<u>7.1</u>	<u>6.3</u>	dbm
2750	<u>7</u>	<u>7.25</u>	<u>+8</u>	<u>8</u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>7.1</u>	<u>7.4</u>	<u>7</u>	<u>6.0</u>	dbm
3000	<u>7</u>	<u>6</u>	<u>+6.5</u>	<u>6</u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>7.8</u>	<u>5.5</u>	<u>7</u>	<u>4</u>	dbm
3200	<u>8</u>	<u>5</u>	<u>+5</u>	<u>7.5</u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>7.5</u>	<u>5.5</u>	<u>7</u>	<u>4.5</u>	dbm
3300	<u>8</u>	<u>5</u>	<u>+3.5</u>	<u>8</u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>8.1</u>	<u>5.9</u>	<u>7.1</u>	<u>5.5</u>	dbm
3400	<u>6.5</u>	<u>4.5</u>	<u>+1.4</u>	<u>6</u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>8.2</u>	<u>5.9</u>	<u>7.1</u>	<u>5.8</u>	dbm

LIMITS WITH RESPECT TO 1 KC LEVEL

DATE 12 DEC. 1963

300-399 cps (+ 0.75 db, -2.9 db)

TESTER JV Manes

400-599 cps (+ 0.75 db, -1.5 db)

SUPERVISOR

600-2400 cps (+0.75 db, -0.75 db) QUALITY ASSURANCE

2401-3000 cps (+0.75 db, -1.5 db)

GEEIA

3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TESTransmission Path: From TES Station to TKG StationMultiplex Group No. ONE

EXPECTED

ACTUAL

## 1. GROUP INPUT LEVEL

Channel	Frequency	Expected	Actual
Channel 1	107KC	(7.8 mv $\pm$ 0.8 mv)	7.8 mv
Channel 2	103KC	(7.8 mv $\pm$ 0.8 mv)	7.8 mv
Channel 3	99KC	(7.8 mv $\pm$ 0.8 mv)	7.8 mv
Channel 4	95KC	(7.8 mv $\pm$ 0.8 mv)	7.8 mv
Channel 5	91KC	(7.8 mv $\pm$ 0.8 mv)	7.8 mv
Channel 6	87KC	(7.8 mv $\pm$ 0.8 mv)	7.8 mv
Channel 7	83KC	(7.8 mv $\pm$ 0.8 mv)	7.8 mv
Channel 8	79KC	(7.8 mv $\pm$ 0.8 mv)	7.8 mv
Channel 9	75KC	(7.8 mv $\pm$ 0.8 mv)	7.8 mv
Channel 10	71KC	(7.8 mv $\pm$ 0.8 mv)	7.8 mv
Channel 11	67KC	(7.8 mv $\pm$ 0.8 mv)	7.8 mv
Channel 12	63KC	(7.8 mv $\pm$ 0.8 mv)	7.8 mv

## 2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

Frequency	Channel	Expected	Actual
104.175KC	Channel 1	(-66 db $\pm$ 0.2 db)	-66 db
100.175KC	Channel 2	(-66 db $\pm$ 0.2 db)	-66 db
96.175KC	Channel 3	(-66 db $\pm$ 0.2 db)	-66 db
92.175KC	Channel 4	(-66 db $\pm$ 0.2 db)	-66 db
88.175KC	Channel 5	(-66 db $\pm$ 0.2 db)	-66 db
84.175KC	Channel 6	(-66 db $\pm$ 0.2 db)	-66 db
80.175KC	Channel 7	(-66 db $\pm$ 0.2 db)	-66 db
76.175KC	Channel 8	(-66 db $\pm$ 0.2 db)	-66 db
72.175KC	Channel 9	(-66 db $\pm$ 0.2 db)	-66 db
68.175KC	Channel 10	(-66 db $\pm$ 0.2 db)	-66 db
64.175KC	Channel 11	(-66 db $\pm$ 0.2 db)	-66 db
60.175KC	Channel 12	(-66 db $\pm$ 0.2 db)	-66 db

## 3. GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	13.7 mv
A(V) Stations		
MW503A, LOS Stations	(4.9 mv $\pm$ 0.2 mv)	N/A mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
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MC-50 MULTIPLEX LINK TEST

STATION TESTransmission Path From Station TES To Station TKGMultiplex Group No. - ONE

	EXPECTED	ACTUAL
4. GROUP RECEIVE LEVEL		
GRP IN (TP-7)		
MRC-85, MRC-80 & FRC-39A(V)	(13.7 mv $\pm$ 1.5 mv)	<u>13.7</u> mv
MW-503A LOS (except GPA)	(15.5 mv $\pm$ 1.8 mv)	<u>N/A</u> mv
MW-503A LOS (GPA only)	(7.7 mv $\pm$ 1.0 mv)	<u>N/A</u> mv
GRP OUT (TP-4)	(18.0 mv $\pm$ 1.0 mv)	<u>18.0</u> mv

## 5. CHANNEL RECEIVE LEVELS

Channel 1	( $\pm 7$ dbm $\pm 0.5$ db)	<u>+7</u> dbm
Channel 2	( $\pm 7$ dbm $\pm 0.5$ db)	<u>+7</u> dbm
Channel 3	( $\pm 7$ dbm $\pm 0.5$ db)	<u>+7</u> dbm
Channel 4	( $\pm 7$ dbm $\pm 0.5$ db)	<u>+7</u> dbm
Channel 5	( $\pm 7$ dbm $\pm 0.5$ db)	<u>+7</u> dbm
Channel 6	( $\pm 7$ dbm $\pm 0.5$ db)	<u>+7</u> dbm
Channel 7	( $\pm 7$ dbm $\pm 0.5$ db)	<u>+7</u> dbm
Channel 8	( $\pm 7$ dbm $\pm 0.5$ db)	<u>+7</u> dbm
Channel 9	( $\pm 7$ dbm $\pm 0.5$ db)	<u>+7</u> dbm
Channel 10	( $\pm 7$ dbm $\pm 0.5$ db)	<u>+7</u> dbm
Channel 11	( $\pm 7$ dbm $\pm 0.5$ db)	<u>+7</u> dbm
Channel 12	( $\pm 7$ dbm $\pm 0.5$ db)	<u>+7</u> dbm

## 6. CHANNEL FREQUENCY RESPONSE

	EXPECTED	ACTUAL
Channels	1 2 3 4 5 6 7 8 9 10 11 12	
Frequency		
300	<u>7.2</u> <u>6.6</u> <u>7.7</u> <u>6.2</u> <u>7.1</u> <u>7.3</u> <u>7.3</u> <u>7.3</u> <u>7.5</u> <u>7.0</u> <u>7.0</u> <u>7.3</u>	dbm
400 S	<u>7.0</u> <u>6.5</u> <u>7.0</u> <u>6.6</u> <u>7.0</u> <u>7.1</u> <u>6.5</u> <u>6.6</u> <u>7.1</u> <u>7.5</u> <u>7.3</u> <u>7.6</u>	dbm
600 e	<u>6.9</u> <u>7.0</u> <u>7.7</u> <u>7.7</u> <u>7.3</u> <u>7.5</u> <u>7.5</u> <u>7.6</u> <u>7.3</u> <u>7.75</u> <u>7.5</u> <u>7.0</u>	dbm
750 B	<u>7.0</u> <u>7.0</u> <u>7.4</u> <u>7.3</u> <u>7.1</u> <u>7.5</u> <u>7.0</u> <u>7.2</u> <u>7.0</u> <u>7.6</u> <u>7.4</u> <u>7.1</u>	dbm
1000 e	<u>7.0</u> <u>7.0</u> <u>7.0</u> <u>7.0</u> <u>7.0</u> <u>7.0</u> <u>7.0</u> <u>7.0</u> <u>7.0</u> <u>7.0</u> <u>7.0</u> <u>7.0</u>	dbm
1250 l	<u>7.0</u> <u>6.4</u> <u>6.9</u> <u>6.7</u> <u>7.0</u> <u>6.5</u> <u>6.5</u> <u>6.2</u> <u>7.0</u> <u>6.9</u> <u>7.1</u> <u>6.7</u>	dbm
w		



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STATION TESTransmission Path: From Station TES To Station TKGMultiplex Group No. ONE

## CHANNEL FREQUENCY RESPONSE (continued)

Channels Frequency	EXPECTED					ACTUAL							
	1	2	3	4	5	6	7	8	9	10	11	12	
1500	7.1	6.3	7.0	6.8	7.2	6.8	7.1	6.8	7.3	7.0	7.2	6.7	dbm
1750	7.6	6.4	7.0	6.3	7.0	6.8	6.8	6.7	7.1	7.2	6.9	6.8	dbm
2000	7.2	6.3	7.0	6.8	7.0	6.4	6.5	7.0	7.1	7.2	6.8	7.0	dbm
2250	7.5	6.3	7.2	6.5	7.0	7.0	6.3	8.0	6.9	6.9	7.0	6.8	dbm
2400	7.0	6.3	6.2	6.5	7.0	7.0	6.6	7.1	7.1	7.0	6.8	7.0	dbm
2750	7.1	7.0	7.4	6.9	7.5	7.5	6.2	7.4	7.6	7.5	7.0	7.4	dbm
3000	7.2	7.0	7.75	7.0	7.0	7.5	7.2	7.3	7.5	7.0	7.0	7.0	dbm
3200	7.0	7.0	7.5	6.3	7.3	7.0	7.0	6.7	7.7	6.9	6.9	7.5	dbm
3300	7.75	5.3	7.3	7.0	7.5	7.0	6.6	6.0	7.5	7.6	6.3	6.9	dbm
3400	7.0	5.0	7.0	7.0	7.0	6.6	6.1	5.0	7.2	7.1	6.4	5.8	dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

300-399 cps (+ 0.75 db, -2.9 db)

400-599 cps (+ 0.75 db, -1.5 db)

600-2400 cps (+0.75 db, -0.75 db)

2401-3000 cps (+0.75 db, -1.5 db)

3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
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MC-50 MULTIPLEX LINK TEST

STATION TESTransmission Path; From TES Station to TKG StationMultiplex Group No. ONE

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 1

Channel 2

Channel 3

Channel 4

Channel 5

Channel 6

Channel 7

Channel 8

Channel 9

Channel 10

Channel 11

Channel 12

S  
e  
e  
B  
e  
l  
o  
w

Channel	Expected (dbm)	Actual (-16 dbm ref.)	Actual (-14 dbm)	Actual (-2 dbm)
Channel 1	7.0	9.1	11.1	dbm
Channel 2	7.0	9.3	12.0	dbm
Channel 3	7.0	9.1	12.4	dbm
Channel 4	7.0	9.1	12.2	dbm
Channel 5	7.0	9.1	11.6	dbm
Channel 6	7.0	9.3	12.1	dbm
Channel 7	7.0	9.1	12.3	dbm
Channel 8	7.0	9.0	11.9	dbm
Channel 9	7.0	9.2	10.9	dbm
Channel 10	7.0	9.4	11.9	dbm
Channel 11	7.0	9.3	12.1	dbm
Channel 12	7.0	9.1	11.0	dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 15 December 1963TESTER R. C. AllbeckSUPERVISOR R. C. AllbeckQUALITY ASSURANCE Stan RandallGEEIA Ralph S. Hoyer



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKR

Transmission Path: From TKR Station to TKG StationMultiplex Group No. ONE

EXPECTED

ACTUAL

## 1. GROUP INPUT LEVEL

Channel 1	<del>XXXX</del> 107 KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 2	<del>XXXX</del> 103 KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 3	<del>XXXX</del> 99 KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 4	<del>XXXX</del> 95 KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 5	<del>XXXX</del> 91 KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 6	<del>XXXX</del> 87 KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 7	<del>XXXX</del> 83 KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 8	<del>XXXX</del> 79 KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 9	<del>XXXX</del> 75 KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 10	<del>XXXX</del> 71 KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 11	<del>XXXX</del> 67 KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv
Channel 12	<del>XXXX</del> 63 KC	(7.8 mv $\pm$ 0.8 mv)	<u>7.8</u> mv

## 2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

Channel 1	60.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 2	64.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 3	68.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 4	72.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 5	76.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 6	80.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 7	84.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 8	88.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 9	92.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 10	96.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 11	100.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv
Channel 12	104.125 kc	(.125 mv $\pm$ 0.02 mv)	<u>N/A</u> mv

## 3. GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>N/A</u> mv
A(V) Stations		
MW503A, LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>4.9</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKRTransmission Path From Station TKR To Station TKR-TPH) TKGMultiplex Group No. - ONE

EXPECTED ACTUAL

## 4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv)N/A mv

MW-503A LOS (except GPA)

(15.5 mv  $\pm$  1.8 mv)15.5 mv

MW-503A LOS (GPA only)

(7.7 mv  $\pm$  1.0 mv)N/A mv

GRP OUT (TP-4)

(18.0 mv  $\pm$  1.0 mv)18.0 mv

## 5. CHANNEL RECEIVE LEVELS

Channel 1

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 2

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 3

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 4

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 5

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 6

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 7

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 8

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 9

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 10

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 11

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

Channel 12

( $\pm 7$  dbm  $\pm 0.5$  db)7.0 dbm

## 6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels

1 2 3 4 5 6 7 8 9 10 11 12

Frequency

300

6.7

6.4

6.7

dbm

400

6.4

7.1

6.8

dbm

600

6.9

7.0

6.9

dbm

750

6.8

7.0

6.8

dbm

1000

6.4

6.9

6.7

dbm

1250

6.5

6.8

6.7

dbm

w



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKRTransmission Path: From Station TKR To Station TKG

Multiplex Group No. \_\_\_\_\_

## CHANNEL FREQUENCY RESPONSE (continued)

Channels Frequency	EXPECTED			ACTUAL								
	1	2	3	4	5	6	7	8	9	10	11	12
NOTE: CHANNELS 3,7,11 RECORDED, ALL OTHERS WAIVERED.												
1500			6.8				6.9				6.9	dbm
1750			6.8				6.9				6.4	dbm
2000			6.4				6.5				6.2	dbm
2250			6.5				6.6				6.4	dbm
2400			6.8				6.8				6.3	dbm
2750			6.8				7.2				6.7	dbm
3000			6.3				7.3				6.7	dbm
3200			5.8				7.2				6.7	dbm
3300			5.2				7.0				6.5	dbm
3400			4.4				6.4				6.0	dbm

## LIMITS WITH RESPECT TO 1 KC LEVEL

300-399 cps (+ 0.75 db, -2.9 db)

400-599 cps (+ 0.75 db, -1.5 db)

600-2400 cps (+0.75 db, -0.75 db)

2401-3000 cps (+0.75 db, -1.5 db)

3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKRTransmission Path; From TKR Station to TKG StationMultiplex Group No. ONE

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 1

Channel 2

Channel 3\*

Channel 4

Channel 5

Channel 6

Channel 7\*

Channel 8

Channel 9

Channel 10

Channel 11\*

Channel 12

S  
e  
e  
B  
e  
l  
o  
w

Channel	Expected	Actual
Channel 1	-16 dbm ref.	-14 dbm -2dbm
Channel 2	dbm	dbm dbm
Channel 3*	6.2 dbm	8.1 dbm 1.3 dbm
Channel 4	dbm	dbm dbm
Channel 5	dbm	dbm dbm
Channel 6	dbm	dbm dbm
Channel 7*	6.7 dbm	8.5 dbm 1.8 dbm
Channel 8	dbm	dbm dbm
Channel 9	dbm	dbm dbm
Channel 10	dbm	dbm dbm
Channel 11*	6.4 dbm	8.3 dbm 1.9 dbm
Channel 12	dbm	dbm dbm

NOTE: CHANNELS 3,7&amp;11 RECORDED, ALL OTHERS WAIVERED.

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 25 OCTOBER, 1963TESTER Raymond C. LinderSUPERVISOR Raymond C. LinderQUALITY ASSURANCE J. M. KlempeOEBIN Ralph S. Kruger



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKR

Transmission Path: From TKR Station to TIZ Station

Multiplex Group No. 2

EXPECTED

ACTUAL

1. GROUP INPUT LEVEL

Channel 1	63 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 2	67 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 3	71 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 4	75 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 5	79 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 6	83 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 7	87 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 8	91 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 9	95 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 10	99 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 11	103 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>
Channel 12	107 kc	(7.8 mv $\pm$ 0.8 mv)	<u>7.8 mv</u>

2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

Channel 1	60.125 kc	<del>(.125 mv <math>\pm</math> 0.02 mv)</del>	<del>-65.50 mv</del>
Channel 2	64.125 kc	<del>(.125 mv <math>\pm</math> 0.02 mv)</del>	<del>-66.00 mv</del>
Channel 3	68.125 kc	<del>(.125 mv <math>\pm</math> 0.02 mv)</del>	<del>-66.00 mv</del>
Channel 4	72.125 kc	<del>(.125 mv <math>\pm</math> 0.02 mv)</del>	<del>-65.50 mv</del>
Channel 5	76.125 kc	<del>(.125 mv <math>\pm</math> 0.02 mv)</del>	<del>-65.50 mv</del>
Channel 6	80.125 kc	<del>(.125 mv <math>\pm</math> 0.02 mv)</del>	<del>-65.50 mv</del>
Channel 7	84.125 kc	<del>(.125 mv <math>\pm</math> 0.02 mv)</del>	<del>-66.00 mv</del>
Channel 8	88.125 kc	<del>(.125 mv <math>\pm</math> 0.02 mv)</del>	<del>-66.00 mv</del>
Channel 9	92.125 kc	<del>(.125 mv <math>\pm</math> 0.02 mv)</del>	<del>-65.80 mv</del>
Channel 10	96.125 kc	<del>(.125 mv <math>\pm</math> 0.02 mv)</del>	<del>-65.50 mv</del>
Channel 11	100.125 kc	<del>(.125 mv <math>\pm</math> 0.02 mv)</del>	<del>-66.00 mv</del>
Channel 12	104.125 kc	<del>(.125 mv <math>\pm</math> 0.02 mv)</del>	<del>-66.00 mv</del>

(-66.00  $\pm$  1.00 (0.04 mv))

3. GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39	(13.7 mv $\pm$ 0.7 mv)	<u>N/A mv</u>
A(V) Stations		
MW503A LOS Stations	(4.9 mv $\pm$ 0.2 mv)	<u>4.90 mv</u>



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKRTransmission Path From Station TKR To Station TIZMultiplex Group No. - 2

EXPECTED ACTUAL

## 4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)(13.7 mv  $\pm$  1.5 mv)N/A mv

MW-503A LOS (except GPA)

(15.5 mv  $\pm$  1.8 mv)15.1 mv

MW-503A LOS (GPA only)

(7.7 mv  $\pm$  1.0 mv)N/A mv

GRP OUT (TP-4)

(18.0 mv  $\pm$  1.0 mv)18.2 mv

## 5. CHANNEL RECEIVE LEVELS

Channel 1

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 2

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 3

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 4

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 5

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 6

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 7

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 8

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 9

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 10

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 11

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

Channel 12

( $\pm$ 7 dbm  $\pm$ 0.5 db)+7.0 dbm

## 6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels

1 2 3 4 5 6 7 8 9 10 11 12

Frequency

300		5.8	7.4	6.4	7.4	7.3	6.7	6.6	7.4	7.1	5.5	7.6	7.6	dbm
400	S	6.6	7.1	6.9	7.6	7.3	7.4	7.6	7.7	7.5	7.2	7.6	7.6	dbm
600	e	7.1	7.4	7.2	7.7	7.4	7.6	7.6	7.5	7.6	7.8	7.5	7.2	dbm
750	B	7.3	7.4	7.2	7.6	7.4	7.6	7.5	7.5	7.5	7.5	7.4	7.2	dbm
1000	e	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	dbm
1250	ol	7.1	7.2	6.9	7.0	7.1	6.9	7.2	7.3	7.3	7.3	7.2	7.0	dbm
	no													
	w													



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKRTransmission Path: From Station TKR To Station TIZMultiplex Group No. 2

## CHANNEL FREQUENCY RESPONSE (continued)

Channels Frequency	EXPECTED					ACTUAL							
	1	2	3	4	5	6	7	8	9	10	11	12	
1500	<u>7.3</u>	<u>7.3</u>	<u>7.0</u>	<u>7.4</u>	<u>7.4</u>	<u>7.3</u>	<u>7.5</u>	<u>7.5</u>	<u>7.6</u>	<u>7.6</u>	<u>7.4</u>	<u>6.9</u>	dbm
1750	<u>7.5</u>	<u>7.3</u>	<u>7.2</u>	<u>7.3</u>	<u>7.3</u>	<u>7.2</u>	<u>7.6</u>	<u>7.6</u>	<u>*7.8</u>	<u>7.6</u>	<u>7.3</u>	<u>6.9</u>	dbm
2000	<u>7.5</u>	<u>7.4</u>	<u>7.0</u>	<u>7.2</u>	<u>7.2</u>	<u>7.0</u>	<u>7.5</u>	<u>7.4</u>	<u>*7.8</u>	<u>7.5</u>	<u>7.0</u>	<u>6.9</u>	dbm
2250	<u>7.4</u>	<u>7.5</u>	<u>7.1</u>	<u>7.2</u>	<u>7.3</u>	<u>6.9</u>	<u>7.4</u>	<u>7.4</u>	<u>*7.8</u>	<u>7.3</u>	<u>7.0</u>	<u>7.2</u>	dbm
2400	<u>7.2</u>	<u>7.6</u>	<u>7.4</u>	<u>7.1</u>	<u>7.4</u>	<u>7.0</u>	<u>7.4</u>	<u>7.4</u>	<u>7.7</u>	<u>7.2</u>	<u>7.2</u>	<u>7.3</u>	dbm
2750	<u>6.9</u>	<u>7.5</u>	<u>7.7</u>	<u>7.4</u>	<u>7.1</u>	<u>7.3</u>	<u>*7.8</u>	<u>7.6</u>	<u>7.5</u>	<u>7.0</u>	<u>7.5</u>	<u>7.4</u>	dbm
3000	<u>7.1</u>	<u>6.8</u>	<u>7.7</u>	<u>7.0</u>	<u>6.7</u>	<u>6.7</u>	<u>*7.8</u>	<u>7.4</u>	<u>7.5</u>	<u>6.6</u>	<u>7.4</u>	<u>7.7</u>	dbm
3200	<u>7.3</u>	<u>6.7</u>	<u>7.3</u>	<u>6.9</u>	<u>6.8</u>	<u>6.3</u>	<u>7.5</u>	<u>7.3</u>	<u>7.4</u>	<u>6.5</u>	<u>7.1</u>	<u>7.4</u>	dbm
3300	<u>7.4</u>	<u>6.8</u>	<u>6.8</u>	<u>7.1</u>	<u>6.8</u>	<u>6.1</u>	<u>7.4</u>	<u>6.9</u>	<u>7.5</u>	<u>6.7</u>	<u>7.0</u>	<u>6.7</u>	dbm
3400	<u>7.3</u>	<u>7.0</u>	<u>6.3</u>	<u>7.2</u>	<u>6.3</u>	<u>6.0</u>	<u>6.8</u>	<u>6.3</u>	<u>7.5</u>	<u>7.0</u>	<u>6.6</u>	<u>5.4</u>	dbm

\* OUT OF SPECIFICATION

## LIMITS WITH RESPECT TO 1 KC LEVEL

300-399 cps (+ 0.75 db, -2.9 db)

400-599 cps (+ 0.75 db, -1.5 db)

600-2400 cps (+0.75 db, -0.75 db)

2401-3000 cps (+0.75 db, -1.5 db)

3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TKRTransmission Path; From TKR Station to TIZ StationMultiplex Group No. 2

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 1

Channel 2

Channel 3

Channel 4

Channel 5

Channel 6

Channel 7

Channel 8

Channel 9

Channel 10

Channel 11

Channel 12

S  
e  
e  
B  
e  
l  
o  
w

Channel	Expected	Actual
Channel 1	6.5 dbm	8.8 dbm
Channel 2	6.5 dbm	8.8 dbm
Channel 3	6.5 dbm	8.9 dbm
Channel 4	6.5 dbm	8.7 dbm
Channel 5	6.5 dbm	8.8 dbm
Channel 6	6.5 dbm	8.8 dbm
Channel 7	6.5 dbm	8.9 dbm
Channel 8	6.2 dbm	8.6 dbm
Channel 9	6.0 dbm	8.5 dbm
Channel 10	6.1 dbm	8.5 dbm
Channel 11	6.1 dbm	8.5 dbm
Channel 12	6.2 dbm	8.5 dbm

## LIMITS

## \* OUT OF SPECIFICATION

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 12 NOVEMBER 1963TESTER [Signature]SUPERVISOR [Signature]QUALITY ASSURANCE [Signature]GEEIA VERIFIED 11/12/63



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

Transmission Path: From T12 Station to T12 Station  
Multiplex Group No. ONE

EXPECTED                      ACTUAL

1. GROUP INPUT LEVEL

Channel 1	63 kc	(7.8 mv ± 0.8 mv)	<u>      </u> mv
Channel 2	<del>107</del> 107 kc	(7.8 mv ± 0.8 mv)	<u>7.8</u> mv
Channel 3	<del>103</del> 103 kc	(7.8 mv ± 0.8 mv)	<u>7.8</u> mv
Channel 4	<del>99</del> 99 kc	(7.8 mv ± 0.8 mv)	<u>7.8</u> mv
Channel 5	<del>95</del> 95 kc	(7.8 mv ± 0.8 mv)	<u>7.8</u> mv
Channel 6	<del>91</del> 91 kc	(7.8 mv ± 0.8 mv)	<u>7.8</u> mv
Channel 7	<del>87</del> 87 kc	(7.8 mv ± 0.8 mv)	<u>7.8</u> mv
Channel 8	<del>83</del> 83 kc	(7.8 mv ± 0.8 mv)	<u>7.8</u> mv
Channel 9	<del>79</del> 79 kc	(7.8 mv ± 0.8 mv)	<u>7.8</u> mv
Channel 10	<del>75</del> 75 kc	(7.8 mv ± 0.8 mv)	<u>7.8</u> mv
Channel 11	<del>71</del> 71 kc	(7.8 mv ± 0.8 mv)	<u>7.8</u> mv
Channel 12	<del>67</del> 67 kc	(7.8 mv ± 0.8 mv)	<u>7.8</u> mv
	<del>63</del> 63 kc		<u>7.8</u>

2. CHANNEL SIGNALLING LEVEL AT GROUP INPUT

N/A

Channel 1	60.125 kc	(.125 mv ± 0.02 mv)	<u>      </u> mv
Channel 2	64.125 kc	(.125 mv ± 0.02 mv)	<u>      </u> mv
Channel 3	68.125 kc	(.125 mv ± 0.02 mv)	<u>      </u> mv
Channel 4	72.125 kc	(.125 mv ± 0.02 mv)	<u>      </u> mv
Channel 5	76.125 kc	(.125 mv ± 0.02 mv)	<u>      </u> mv
Channel 6	80.125 kc	(.125 mv ± 0.02 mv)	<u>      </u> mv
Channel 7	84.125 kc	(.125 mv ± 0.02 mv)	<u>      </u> mv
Channel 8	88.125 kc	(.125 mv ± 0.02 mv)	<u>      </u> mv
Channel 9	92.125 kc	(.125 mv ± 0.02 mv)	<u>      </u> mv
Channel 10	96.125 kc	(.125 mv ± 0.02 mv)	<u>      </u> mv
Channel 11	100.125 kc	(.125 mv ± 0.02 mv)	<u>      </u> mv
Channel 12	104.125 kc	(.125 mv ± 0.02 mv)	<u>      </u> mv

3. GROUP TRANSMIT LEVEL

MRC-85, MRC-80 & FRC-39	(13.7 mv ± 0.7 mv)	<u>      </u> mv
A(V) Stations		<u>N/A</u>
MW503A LOS Stations	(4.9 mv ± 0.2 mv)	<u>4.9</u> mv



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TTZ

Transmission Path From Station TTZ To Station TKR

Multiplex Group No. - ONE

EXPECTED      ACTUAL

4. GROUP RECEIVE LEVEL

GRP IN (TP-7)

MRC-85, MRC-80 &  
FRC-39A(V)

(13.7 mv  $\pm$  1.5 mv)

N/A mv

MW-503A LOS (except GPA)

(15.5 mv  $\pm$  1.8 mv)

15 mv

MW-503A LOS (GPA only)

(7.7 mv  $\pm$  1.0 mv)

7.7 mv

GRP OUT (TP-4)

(18.0 mv  $\pm$  1.0 mv)

18 mv

5. CHANNEL RECEIVE LEVELS

Channel 1

( $\pm 7$  dbm  $\pm 0.5$  db)

47 dbm

Channel 2

( $\pm 7$  dbm  $\pm 0.5$  db)

47 dbm

Channel 3

( $\pm 7$  dbm  $\pm 0.5$  db)

47 dbm

Channel 4

( $\pm 7$  dbm  $\pm 0.5$  db)

47 dbm

Channel 5

( $\pm 7$  dbm  $\pm 0.5$  db)

47 dbm

Channel 6

( $\pm 7$  dbm  $\pm 0.5$  db)

47 dbm

Channel 7

( $\pm 7$  dbm  $\pm 0.5$  db)

47 dbm

Channel 8

( $\pm 7$  dbm  $\pm 0.5$  db)

47 dbm

Channel 9

( $\pm 7$  dbm  $\pm 0.5$  db)

47 dbm

Channel 10

( $\pm 7$  dbm  $\pm 0.5$  db)

47 dbm

Channel 11

( $\pm 7$  dbm  $\pm 0.5$  db)

47 dbm

Channel 12

( $\pm 7$  dbm  $\pm 0.5$  db)

47 dbm

6. CHANNEL FREQUENCY RESPONSE

EXPECTED

ACTUAL

Channels

1 2 3 4 5 6 7 8 9 10 11 12

Frequency

300

7.5 7.5 6.5 6.5 7 6.5 4.5 7.5 6.8 5 5.5 6.8 dbm

400

S

7.3 7.3 6.8 7.3 7.5 6.8 6 7.5 7.3 6.5 6.8 7.5 dbm

600

E

7.2 7.5 7 7.3 7.4 7 7 7 7.3 7.3 7.3 7.4 dbm

750

B

7.1 7.3 7.2 7.4 7.4 7.2 7.2 7.3 7.3 7.3 7.2 7 dbm

1000

e

7 7 7 7 7 7 7 7 7 7 7 7 dbm

1250

o

6.9 6.9 7 6.9 7 7 7 7 7 7 7 7 dbm

w



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION TIZTransmission Path: From Station TIZ To Station TKRMultiplex Group No. ONE

## CHANNEL FREQUENCY RESPONSE (continued)

Channels Frequency	EXPECTED					ACTUAL							
	1	2	3	4	5	6	7	8	9	10	11	12	
1500	7	6.9	7.3	7.2	7.1	7.1	7.3	7.5	7.5	7.3	7.3	7.4	dbm
1750	7.2	7.2	7.3	7.4	7	7.5	7.6	7.4	7.6	7.1	7	7.3	dbm
2000	7.4	6.5	7.2	7.2	6.5	7.2	7.5	7.4	7.3	7	6.5	7.5	dbm
2250	7.5	7	7.4	7.2	7.3	7.1	7.3	7.4	7.2	7	6.9	7.5	dbm
2400	7.4	7.4	6.7	7.5	7	7.5	7.5	7.0	7.4	7	7.2	7.5	dbm
2750	7.2	7.4	7.2	7.4	7	7.5	*	7.0	7.3	6.9	7.5	7	dbm
3000	7	6.9	7.1	7	6.5	7	*	7.0	7	6.5	7.5	7	dbm
3200	7.5	6.6	6.9	6.6	6.8	6.4	*	6.8	7.5	6.4	7.5	6.7	dbm
3300	7.2	6.3	6.5	6.2	6.4	5.5	*	6.5	6.7	6.0	6.8	5.5	dbm
3400	7.5	6.6	6.0	6.5	6.4	5.6	*	5.8	6.8	6.5	6.9	4.7	dbm

\* OUT OF SPECIFICATIONS

## LIMITS WITH RESPECT TO 1 KC. LEVEL

- 300-399 cps ( $\pm$  0.75 db, -2.9 db)  
 400-599 cps (+ 0.75 db, -1.5 db)  
 600-2400 cps (+0.75 db, -0.75 db)  
 2401-3000 cps (+0.75 db, -1.5 db)  
 3001-3400 cps (+0.75 db, -2.9 db)

NOTE: If a channel does not meet the above limits and cross connections are rearranged on the VF Amplifier Card, the complete response for that channel will be rechecked and the new figures recorded.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
MC-50 MULTIPLEX LINK TEST

STATION T12Transmission Path; From T12 Station to TRR Station

Multiplex Group No. \_\_\_\_\_

## 8. GAIN CHANGE

## OUTPUT LEVEL

## EXPECTED

## ACTUAL

## Input Level

Channel 1

Channel 2

Channel 3

Channel 4

Channel 5

Channel 6

Channel 7

Channel 8

Channel 9

Channel 10

Channel 11

Channel 12

S  
e  
e  
B  
e  
l  
o  
w

-16 dbm ref.	-14 dbm	-2dbm
6.2 dbm	8.20 dbm	11.5 dbm
6.25 dbm	8.25 dbm	12 dbm
6.1 dbm	8.0 dbm	13 dbm
6.1 dbm	8.15 dbm	12 dbm
6.15 dbm	8.15 dbm	11 dbm
6.0 dbm	8.0 dbm	13.2 dbm
6.5 dbm	8.5 dbm	13 dbm
6.2 dbm	8.2 dbm	13.5 dbm
6.2 dbm	8.2 dbm	12.5 dbm
6.2 dbm	8.2 dbm	12.5 dbm
6.25 dbm	8.25 dbm	13.0 dbm
6.2 dbm	8.2 dbm	13.5 dbm

## LIMITS

- Channel output level should increase at least 1.65 db with a 2 db increase in channel input level (from -16 dbm input to -14 dbm input)
- Channel output level should not increase more than 8 db with a 14 db increase in channel input level (from -16 dbm input to -2 dbm input)

DATE 11 NOVEMBER, 1963TESTER James R. BrownSUPERVISOR Paul J. BrownQUALITY ASSURANCE J. M. KrupetzGEEIA S. P. Pelt



## FEDERAL ELECTRIC CORPORATION

BR11/61

## BIG RALLY II PROJECT

## DATA SHEET

## AN/TCC-3 MULTIPLEX STATION TEST

STATION GKTransmission Path: From Station GK to STATION GAR

TM 1-004 - FEC Installed

TM 1-004 - FEC NOT Installed X

## AN/TCC-3 MULTIPLEX

## 1. Carrier Supply Output Level

8 kc (TB 901; Terminals 1,2)

EXPECTED  $.89 \pm 0.15v$ ACTUAL .85 v.

12 kc (TB 901; Terminals 4,5)

EXPECTED  $.89 \pm 0.15v$ ACTUAL .81 v.

16 Kc (TB 901; Terminals 6,7)

EXPECTED  $.89 \pm 0.15v$ ACTUAL .84 v.

20 Kc (TB 901; Terminals 9,10)

EXPECTED  $.89 \pm 0.15v$ ACTUAL 1.02 v.

## 2. Channel Levels

Unmodified

Modified

Channel 1

1  $\pm 0.5$  dbm7  $\pm 0.5$  dbm1.0 dbm

Channel 2

1  $\pm 0.5$  dbm7  $\pm 0.5$  dbm1.0 dbm

Channel 3

1  $\pm 0.5$  dbm7  $\pm 0.5$  dbm1.0 dbm

Channel 4

1  $\pm 0.5$  dbm7  $\pm 0.5$  dbm1.0 dbm

## 3. Channel Noise Measurement

Channel 1

14dba

20 dba

22 dba

Channel 2

14dba

20 dba

22 dba

Channel 3

14dba

20 dba

21 dba

Channel 4

14dba

20 dba

27 dba

Note: channel noise measurements made with Daven 12B, instead of specified TS-559, not on site.

DATE 17 January 1964TESTER R. G. G. M. G.SUPERVISOR M. R. G. G. G.QUALITY ASSURANCE Mano's (P. G.)GEEIA Ralph S. Kruger  
2-253



## FEDERAL ELECTRIC CORPORATION

BR11/61

## BIG RALLY II PROJECT

## DATA SHEET

## AN/TCC-3 MULTIPLEX STATION TEST

STATION GABTransmission Path: From Station GAB to STATION GK

TM 1-004 - FEC Installed

TM 1-004 - FEC NOT Installed X

## AN/TCC-3 MULTIPLEX

		EXPECTED	ACTUAL
1. Carrier Supply Output Level			
8 kc (TB 901; Terminals 1,2)		$.89 \pm 0.15v$	<u>.79</u> v.
12 kc (TB 901; Terminals 4,5)		$.89 \pm 0.15v$	<u>.88</u> v.
16 Kc (TB 901; Terminals 6,7)		$.89 \pm 0.15v$	<u>.80</u> v.
20 Kc (TB 901; Terminals 9,10)		$.89 \pm 0.15v$	<u>.86</u> v.
2. Channel Levels			
	Unmodified	Modified	
Channel 1	$\pm 0.5$ dbm	$7 \pm 0.5$ dbm	<u>1</u> dbm
Channel 2	$\pm 0.5$ dbm	$7 \pm 0.5$ dbm	<u>1</u> dbm
Channel 3	$\pm 0.5$ dbm	$7 \pm 0.5$ dbm	<u>1</u> dbm
Channel 4	$\pm 0.5$ dbm	$7 \pm 0.5$ dbm	<u>1</u> dbm
3. Channel Noise Measurement			
Channel 1	14dba	20 dba	<u>-7</u> dba
Channel 2	14dba	20 dba	<u>-7</u> dba
Channel 3	14dba	20 dba	<u>-7</u> dba
Channel 4	14dba	20 dba	<u>-7</u> dba

DATE 15 January 1964TESTER Bob DeWittSUPERVISOR John G. GormanQUALITY ASSURANCE W. G. GormanGEEIA Ralph S. Kruger



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
AN/TCC-3 MULTIPLEX LINK TEST

BR 11/62

STATION GK  
Transmission Path: From Station GKR to Station GK

CHANNEL GAIN AND FREQUENCY RESPONSE

Frequency	Expected Level	Channels			
		1	2	3	4
1000 cps reference	+ 7±0.5 dbm or + 1±0.5 dbm	+1	+1	+1	+1 dbm
	Expected Level with respect to 1 KC reference				
300	+1.5 - 1.5 db	-1.5	+0.5	+1.0	+0.5 dbm
400	+1.5 - 0.4 db	+0.5	+1.0	+0.8	+0.7 dbm
600	+1.5 - 0.25 db	+1.0	+0.5	+0.5	+0.8 dbm
2400	+1.5 - 0.7 db	+0.7	+0.5	+1.0	+0.5 dbm
3000	+1.5 - 0.7 db	-1.6	+0.5	-0.5	0 dbm
3400	+1.5 - 1.25 db	-3.5	-0.25	-0.7	-0.5 dbm

DATE 17 January 1964

TESTER B. G. Grey

SUPERVISOR M. R. McAdams

QUALITY ASSURANCE M. R. McAdams  
GEEK McAdams

Sheet 1 of 1

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FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
AN/TCC-3 MULTIPLEX LINK TEST

BR 11/62

STATION                      GAR  
Transmission Path: From Station                      GK to Station                      GAR

CHANNEL GAIN AND FREQUENCY RESPONSE

Frequency	Expected Level	Channels			
		1	2	3	4
1000 cps reference	+ 7±0.5 dbm or + 1±0.5 dbm	+1	+1	+1	+1 dbm
	Expected Level with respect to 1 KC reference				
300	+1.5 - 1.5 db	-0.7	-0.5	+1.0	+0.5 dbm
400	+1.5 - 0.4 db	+0.9	+1.0	+1.6	+0.7 dbm
600	+1.5 = 0.25 db	+1.0	+1.4	+1.0	+0.8 dbm
2400	+1.5 - 0.7 db	+0.7	+0.7	+1.5	+1.2 dbm
3000	+1.5 - 0.7 db	+0.8	+0.3	+1.1	+0.3 dbm
3400	+1.5 - 1.25db	+1.0	-0.2	+1.0	+0.1 dbm

DATE 15 January 1964

TESTER John B. Baretto

SUPERVISOR John J. J. J.

QUALITY ASSURANCE W. J. J.

Sheet 1 of 1

GEO. Ralph S. Kruger

2-256



MC-50 MUX RF Back/Back Noise  
Station TKG (TAL Shot)

<u>Channel</u>	<u>Idle Noise</u>
1	11 dbao
2	10 dbao
3	10 dbao
4	10 dbao
5	14 dbao
6	10 dbao
7	10 dbao
8	10 dbao
9	10 dbao
10	10 dbao
11	13 dbao
12	14 dbao

DATE 12 December 1963

WITNESS Ronald A. Johnson GEFIA

2-257



MC-50 MUX RF Loop-back Noise

Station TKG (TCO Shot)

<u>Channel</u>	<u>Idle Noise</u>
1	16 dbao
2	16 dbao
3	16 dbao
4	16 dbao
5	16 dbao
6	16 dbao
7	16 dbao
8	16 dbao
9	16 dbao
10	16 dbao
11	16 dbao
12	17 dbao

DATE 10 December 1963

WITNESS *Dwight A. Holmes* GEEIA

1-258



# MC-50 MUX Link Idle Noise and Crosstalk

Station TKR (TIZ Shot)

Channel	Test Tone-Channel out	Idle Noise	Tone Above	Tone Below
1	+7 dbm	12.5 <del>10.5</del> dbao	13.5 dbao	---
2	+7 dbm	14.0 dbao	15.0 dbao	15.0 dbao
3	+7 dbm	13.5 dbao	13.5 dbao	15.5 dbao
4	+7 dbm	14.5 dbao	15.0 dbao	15.0 dbao
5	+7 dbm	14.5 dbao	15.0 dbao	14.5 dbao
6	+7 dbm	13.5 dbao	14.0 dbao	14.0 dbao
7	+7 dbm	15.0 dbao	15.5 dbao	15.0 dbao
8	+7 dbm	14.5 dbao	15.0 dbao	15.0 dbao
9	+7 dbm	14.5 dbao	15.5 dbao	15.0 dbao
10	+7 dbm	14.5 dbao	16.5 dbao	15.5 dbao
11	+7 dbm	17.0 dbao	17.5 dbao	17.0 dbao
12	+7 dbm	16.0 dbao	----	16.0 dbao

## Notes:

- 1.) All of the above measurements made with a Daven 34C Noise measuring set-FIA weighted.
- 2.) All channels were terminated (modulators) in 600 ohm, except during tone insertion.
- 3.) The "Tone Above" and "Tone Below" columns are the <sup>Noise</sup> measurements conducted with a Test Tone inserted either in the channel above or below the one being examined.
- 4.) All of the above measurements have been connected to 0 dbm.

*Joel H. Third*  
Joel H. Third;

Nov. 9, 1963

GEFIA *Verified 11/12/63* *[Signature]*

2-259



MC-50 MUX Loop-back Idle Noise and Crosstalk  
Station TKR (TIZ Shot)

Channel	Test Tone-Channel out	Idle Noise	Tone Above	Tone Below
1	+7 dbm	10 db @ 0	10.5 db @ 0	<del>13 db @ 0</del>
2	+7 dbm	12 db @ 0	13 db @ 0	13 db @ 0
3	+7 dbm	11 db @ 0	11 db @ 0	10.5db @ 0
4	+7 dbm	12.5db @ 0	13 db @ 0	13 db @ 0
5	+7 dbm	11 db @ 0	12 db @ 0	11 db @ 0
6	+7 dbm	11.5db @ 0	11.5 db @ 0	12 db @ 0
7	+7 dbm	12 db @ 0	12 db @ 0	12 db @ 0
8	+7 dbm	12 db @ 0	12.5 db @ 0	12 db @ 0
9	+7 dbm	11 db @ 0	11 db @ 0	11 db @ 0
10	+7 dbm	11 db @ 0	13 db @ 0	11 db @ 0
11	+7 dbm	16 db @ 0	16 db @ 0	16 db @ 0
12	+7 dbm	12 db @ 0	*****	12.5db @ 0

Notes:

- 1.) All of the above measurements made with a Daven 34C Noise measuring set - FIA weighted.
- 2.) All channels were terminated (modulators) in 600 ohm, except during tone insertion.
- 3.) The "Tone Above" and "Tone Below" columns are the noise measurements conducted with a Test Tone inserted either in the channel above or below the one being examined.
- 4.) All of the above measurements have been connected to 0 dbm.

*Joel H. Third*

Joel H. Third; Nov. 1, 1963

NOTE: THE ABOVE DATA HAS BEEN VERIFIED, AND FOUND SATISFACTORY.

GEEIA-11/12/63 *[Signature]*



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
STATION TKR/TIZ

STATION TESTS

SAME DATA AS THE TKR STATION CHECK PERFORMED ON 22 OCTOBER 1963

LINK TEST

1. RECEIVE LEVEL

TKR to TIZ (5  $\pm$  1 dbm) -5.5 dbm

2. SIGNALLING

(LAMP ON & BUZZER AT TIZ)

*Jm* Int

TKR to TIZ

DATE 5 NOVEMBER 1963#

TESTER *Chidrean*

SUPERVISOR *Chidrean*

QUALITY ASSURANCE *Joseph Malbuniz*

GEEIA *2-2(6)*

*Done and passed to the Station*  
*11/16/63*



SITE TKR

# BACK-TO-BACK IDLE NOISE & CROSS TALK

CHAN.	TEST TONE LEVEL	ADJ. CHANNELS		IDLE NOISE
		ABOVE	BELOW	
1	+7 dbm	13.5 dba <sub>0</sub>	x	
2	+7 dbm	14.0 dba <sub>0</sub>	13.5 dba <sub>0</sub>	12 dba <sub>0</sub>
3	+7 dbm	12.5 dba <sub>0</sub>	12.0 dba <sub>0</sub>	12 dba <sub>0</sub>
4	+7 dbm	11.0 dba <sub>0</sub>	11.0 dba <sub>0</sub>	11 dba <sub>0</sub>
5	+7 dbm	10.0 dba <sub>0</sub>	11.5 dba <sub>0</sub>	10 dba <sub>0</sub>
6	+7 dbm	10.5 dba <sub>0</sub>	10.5 dba <sub>0</sub>	10 dba <sub>0</sub>
7	+7 dbm	12.0 dba <sub>0</sub>	11.0 dba <sub>0</sub>	10 dba <sub>0</sub>
8	+7 dbm	10.5 dba <sub>0</sub>	15.0 dba <sub>0</sub>	10 dba <sub>0</sub>
9	+7 dbm	10.0 dba <sub>0</sub>	10.5 dba <sub>0</sub>	10 dba <sub>0</sub>
10	+7 dbm	13.5 dba <sub>0</sub>	10.5 dba <sub>0</sub>	10 dba <sub>0</sub>
11	+7 dbm	11.0 dba <sub>0</sub>	10.5 dba <sub>0</sub>	10 dba <sub>0</sub>
12	+7 dbm	x	11.0 dba <sub>0</sub>	10 dba <sub>0</sub>

DATE 21 Oct. 1963

TESTER

J. W. Smith

SUPERVISOR

Raymond J. Henderson

Q.A.

John R. Smith



## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

## DATA SHEET

TIZ

## MUX CHANNEL IDLE NOISE AND CROSS TALK TEST

(STATION TEST, BACK TO BACK)

CHANNEL #	IDLE NOISE	TONE ABOVE	TONE BELOW
1.	15	17	
2.	16	18	17
3.	13	13	15
4.	16	16	16
5.	12	13	12
6.	12	12	12
7.	13	14	12 13 <i>sky</i>
8.	14	14	14
9.	12	14	14
10.	12	14	13
11.	12	12	13
12.	12		12

## NOTES:

- A. ABOVE MEASUREMENTS MADE ON T/S-559D/FT NOISE MEASURING TEST SET.
- B. ALL CHANNELS TERMINATED WITH 600 OHMS AT MOD. EXCEPT DURING TONE INSERTION.
- C. TONE ABOVE AND TONE BELOW NOISE MEASUREMENTS CONDUCTED WITH A 1 kc TEST TONE @ -16 dbm INSERTED EITHER ABOVE OR BELOW CHANNEL BEING TESTED.
- D.

DATE 11 NOVEMBER 63TESTOR James F. [Signature]SUPERVISOR Paul [Signature]QUALITY ASSURANCE Jim [Signature]GSEA [Signature]

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## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

## DATA SHEET

## MUX CHANNEL IDLE NOISE AND CROSS TALK TEST

LINK TESTS: T1Z-TKR

CHANNEL #	IDLE NOISE	TONE ABOVE	TONE BELOW
1.	13.5 dbao	15	
2.	14.5	18.5	16
3.	14	15.5	18.5
4.	14.5	15.5	16.0
5.	14.5	15.5	15.5
6.	15	16	16
7.	15	16	16
8.	16	17	16.5
9.	16.5	17	17
10.	17.5	19	17.5
11.	19	19.5	19.5
12.	20		20.5

## NOTES:

1. ABOVE MEASUREMENTS MADE ON ~~NEW~~ TS-559D/FT METER.
2. ALL CHANNELS TERMINATED WITH 600 OHMS AT MOD. EXCEPT DURING TONE INSERTION.
3. TONE ABOVE & TONE BELOW COLUMN OF NOISE MEASUREMENTS CONDUCTED WITH A 1 KC @ -16 dbm TEST TONE INSERTED EITHER ABOVE OR BELOW THE CHANNEL BEING TESTED.
4. ALL OF THE ABOVE MEASUREMENTS HAVE BEEN CORRECTED TO 0 dbm.

DATE

9 NOV. 1963

TESTOR

James J. [Signature]

SUPERVISOR

Paul [Signature]

QUALITY ASSURANCE

J. M. [Signature]

GEEIA

[Signature]

2-264



## FEDERAL ELECTRIC CORPORATION

## BIG RALLY PROJECT

TIZ

## LINK TEST

CHANNEL#	TKR TERMINATE TIZ MEASURE, dbao	NET CHANGE	TKR LOOP TIZ MEASURE, dbao
1.	15.5	2.5	18
2.	16.5	2	18.5
3.	17	2.5	18.5
4.	17	1.5	18.5
5.	17	2	19
6.	17.5	1.5	19
7.	17.5	1.5	19
8.	18.5	1	19.5
9.	19.5	0	19.5
10.	20	1	21
11.	20.5	1	21.5
12.	22	.5	22.5

## NOTES:

- A. ABOVE MEASUREMENTS MADE ON TRANSMISSION MEASURING SET TS-559D/FT  
B. CHANNEL TERMINATION 600 OHMS

DATE 11 DEC 1964  
TESTOR James Longman  
SUPERVISOR Paul L. Smith  
QUALITY ASSURANCE J. M. Kline  
GEN. A Ed. J. Smith

2-265



## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

## DATA SHEET

## MAIN LINE ORDER WIRE STATION TEST

STATION T.I.D.

NOTE: 1. All EXPECTED levels for each station are given on either Figure 2 or Figure 3.

2. Place an X in the ACTUAL column when the requested measurement is not applicable at the station under test.

TERMINAL CONTROL STATION	TOLERANCE	ACTUAL
1. Circuit A TX (J27)	$\pm 1/2$ db	<u>- 13</u> dbm
2. Circuit B TX (J29)	$\pm 1$ db	<u>- 13</u> dbm
3. Circuit D TX ( <del>J36</del> )	$\pm 1/2$ db	<u>- 5</u> dbm
4. Circuit F TX (J38)	$\pm 1$ db	<u>N/A</u> dbm
5. Circuit B TX (J29)	$\pm 1/2$ db	<u>- 13</u> dbm
6. Circuit C TX ( <del>J34</del> )	$\pm 1/2$ db	<u>- 5</u> dbm
7. Circuit C TX ( <del>J34</del> )	$\pm 1/2$ db	<u>- 5</u> dbm
8. Circuit C TX ( <del>J34</del> )	$\pm 1/2$ db	<u>- 5</u> dbm
9. 3,400 cps Tone Level Circuit A TX (J 27)	13 db + 1/2 db Below Test Tone	<u>- 26</u> dbm

Pot range - 28 to - 18



## DATA SHEET

## MAIN LINE ORDER WIRE STATION TEST

STATION T.I.D.TOLERANCEACTUALMASTER TERMINAL CONTROL STATION  
(GPA ONLY)

- |   |                                   |                 |
|---|-----------------------------------|-----------------|
| 1. OUT Jack of Drop Amp 6-8, A                      | <u>+ 1/2 db</u>                   | <u>N/A</u> db m |
| 2. OUT Jack of Drop Amp 6-8, B                      | <u>+ 1/2 db</u>                   | <u>N/A</u> dbm  |
| 3. 3,400 cps Tone Level<br>Radio West TX (J2 EQUIP) | 13 db + 1/2 db<br>Below Test Tone | <u>N/A</u> dbm  |

DATE 3 DEC. 1963TESTER V. QuinnSUPERVISOR R. E. CarterQUALITY ASSURANCE Patrick HurstSHEET 1A Ralph S. Burger

SHEET 2 OF 2

AFCS \_\_\_\_\_



## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

## DATA SHEET

## MAIN LINE ORDER WIRE STATION TEST

STATION TKG

NOTE: 1. All EXPECTED levels for each station are given on either Figure 2 or Figure 3.

2. Place an X in the ACTUAL column when the requested measurement is not applicable at the station under test.

TERMINAL CONTROL STATION	TOLERANCE	ACTUAL
1. Circuit A TX (J27)	$\pm 1/2$ db	<u>-13.0</u> dbm
2. Circuit B TX (J29)	$\pm 1$ db	<u>-13.0</u> dbm
3. Circuit D TX ( <del>J31</del> <sup>J31</sup> )	$\pm 1/2$ db	<u>N/A</u> dbm
4. Circuit F TX (J38)	$\pm 1$ db	<u>N/A</u> dbm
5. Circuit B TX (J29)	$\pm 1/2$ db	<u>-13.0</u> dbm
6. Circuit C TX ( <del>J34</del> <sup>J34</sup> )	$\pm 1/2$ db	<u>-5.0</u> dbm
7. Circuit C TX ( <del>J34</del> <sup>J34</sup> )	$\pm 1/2$ db	<u>-5.0</u> dbm
8. Circuit C TX ( <del>J34</del> <sup>J34</sup> )	$\pm 1/2$ db	<u>N/A</u> dbm
9. 3,400 cps Tone Level Circuit A TX (J 27)	13 db $\pm 1/2$ db Below Test Tone	<u>-26.0</u> dbm



## DATA SHEET

## MAIN LINE ORDER WIRE STATION TEST

STATION TKGMASTER TERMINAL CONTROL STATION  
(GPA ONLY)TOLERANCEACTUAL

1. OUT Jack of Drop Amp 6-8, A
2. OUT Jack of Drop Amp 6-8, B
3. 3,400 cps Tone Level  
Radio West TX (J2 EQUIP)

+ 1/2 dbN/A dbm+ 1/2 dbN/A dbm13 db + 1/2 db  
Below Test ToneN/A dbmDATE 92 December 1963

TESTER

SUPERVISOR

QUALITY ASSURANCE

GEEIA

SHEET 2 OF 2

3-4



## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

## DATA SHEET

## MAIN LINE ORDER WIRE LINK TEST

STATION GPA

- NOTES: 1. All EXPECTED levels for each station are given on either Figure 2 or Figure 3.
2. Place an X in the ACTUAL column when the requested measurement is not applicable at the station under test.

LINK CIRCUIT LEVELS	<u>TOLERANCE</u>	<u>ACTUAL</u>
1. Radio East RX	<u>+ 1 db</u>	<u>-9.5 dbm</u>
2. Radio West RX	<u>+ 1 db</u>	<u>NA dbm</u>
3. EXOW	<u>+ 1 db</u>	<u>N/A dbm</u>

## OVER-RIDE OPERATION

1. Transmit Circuit
2. Receive Circuit
3. Transmit Circuit (Master Term. Cont. - GPA)
4. Receive Circuit ((Master Term. Cont. - GPA)

Initial if Okay NOT TESTED  
SEE NOTENOT TESTED" "" "DATE 11-27-63TESTER R. LibbeySUPERVISOR C.weeneyQUALITY ASSURANCE M. CrisGECIA Ronald A. Palmer



## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

## DATA SHEET

## MAIN LINE ORDER WIRE LINK TEST

STATION T.I. D.

- NOTES: 1. All EXPECTED levels for each station are given on either Figure 2 or Figure 3.
2. Place an X in the ACTUAL column when the requested measurement is not applicable at the station under test.

LINK CIRCUIT LEVELS	TOLERANCE	ACTUAL
1. Radio East RX	<u>+ 1 db</u>	<u>- 10.8 dbm</u>
2. Radio West RX	<u>+ 1 db</u>	<u>- 10.75 dbm</u>
3. EXOW	<u>+ 1 db</u>	<u>N/A dbm</u>

## OVER-RIDE OPERATION

## DEFICIENCY:

1. Transmit Circuit
2. Receive Circuit
3. Transmit Circuit (Master Term. Cont. - GPA)
4. Receive Circuit ((Master Term. Cont. - GPA)

Initial if Okay \_\_\_\_\_

DATE 3 DEC. 1963TESTER J. QuinnSUPERVISOR J. B. HesterQUALITY ASSURANCE Patrick HuntGEEIA Ralph S. Henger



## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

## DATA SHEET

## MAIN LINE ORDER WIRE LINK TEST

STATION TKG

- NOTES: 1. All EXPECTED levels for each station are given on either Figure 2 or Figure 3.
2. Place an X in the ACTUAL column when the requested measurement is not applicable at the station under test.

LINK CIRCUIT LEVELS	TOLERANCE	ACTUAL
1. Radio East RX	<u>+ 1 db</u>	<u>N/A</u> dbm
2. Radio West RX	<u>+ 1 db</u>	<u>-9.2</u> dbm
3. EXOW	<u>+ 1 db</u>	<u>N/A</u> dbm

## OVER-RIDE OPERATION

1. Transmit Circuit	Initial if Okay <u>*</u>
2. Receive Circuit	<u>*</u>
3. Transmit Circuit (Master Term. Cont. - GPA)	<u>N/A</u>
4. Receive Circuit ((Master Term. Cont. - GPA)	<u>N/A</u>

\* Override function operates, but is intermittent with voice modulation.

DATE 9 December 1963TESTER J. M. [Signature]SUPERVISOR William R. [Signature]QUALITY ASSURANCE J. M. [Signature]GEEIA Ronald A. [Signature]



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET

brii  
BR11/152

STATIONS GK-GAR SHELTER & VAN

STATION TESTS

	EXPECTED	ACTUAL
1. Signal Transmit Level	(-30 $\pm$ 0.5 dbm)	<u>-30</u> dbm
2. Bridge Transmit Loss, W Mod	(-20 $\pm$ 0.5 dbm)	<u>-20</u> dbm
3. Amplifier A Gain Adjust, Pos 9-3	(-20 $\pm$ 0.5 dbm)	<u>-4</u> dbm
4. Bridge Receive Loss, Spur Mod	(-20 $\pm$ 0.5 dbm)	<u>-20</u> dbm
5. Amplifier A Gain Adjust, Pos 9-4	(-5 $\pm$ 0.5 dbm)	<u>-5</u> dbm
6. Bridge Transmit Loss, E Mod	(-20 $\pm$ 0.5 dbm)	<u>-20</u> dbm
7. Amplifier B Gain Adjust, Pos 9-3	(-5 $\pm$ 0.5 dbm)	<u>-5(not used)</u> dbm

LINK TESTS

	EXPECTED	ACTUAL
1. Receive Level		
GK-GAR	(-5 $\pm$ 1 dbm)	<u>-5</u> dbm
2. Signalling	EXPECTED	INITIAL
TRC-35 GK to GAR	Lamp ON and Buzzer at GAR	<u>RSK</u>
MRC-85 GK to GAR	Lamp ON and Buzzer at GAR	<u>RSK</u>

DATE 17 January 1964

TESTER B. Grey me

SUPERVISOR M. R. Albridge

QA Walter Canoy

GEEIA Ralph S. Kruger



## FEDERAL ELECTRIC CORPORATION

## BIG RALLY II PROJECT

BRH/151

## DATA SHEET

STATIONS IGC(IC), GEL(GAB, TCO(TKG) AND TES(TKG)

GARSTATIONS TESTS  
STATIONS TESTSEXPTECTE  
EXPECTED

## ACTUAL

1. Signal Transmit Level	(-30 $\pm$ 0.5 dbm)	-30 dbm
2. Bridge Transmit Loss, W Mod	(-20 $\pm$ 0.5 dbm)	-20 dbm
3. Amplifier A Gain Adjust, Pos 9-3 <sup>nc</sup>	<del>(-20 <math>\pm</math> 0.5 dbm)</del>	-4 dbm
4. Bridge Receive Loss, Spur Mod	(-20 $\pm$ 0.5 dbm)	-20 dbm
5. Amplifier A Gain Adjust, Pos 9-4	(-5 $\pm$ 0.5 dbm)	-5 dbm
6. Bridge Transmit Loss, E Mod	(-20 $\pm$ 0.5 dbm)	-20 dbm
7. Amplifier B Gain Adjust, Pos 9-3	(-5 $\pm$ 0.5 dbm)	-5 dbm
8. Order Wire Receive	(Lamp ON & Buzzer	RSK Int.

## LINK TESTS

## EXPECTED

## ACTUAL

1. Receive Level		
GAR to GK Shelter	(-5 $\pm$ 1 dbm)	-5 dbm
GAR to GK Van	(-5 $\pm$ 1 dbm)	-5 dbm

## LINK TESTS

## EXPECTED

## ACTUAL

2. Signalling		
GAR to GK Shelter	(Lamp ON & Buzzer, IC Shelter)	RSK Int.
GAR to GK Van	(Lamp ON & Buzzer, IC Van	RSK Int.

DATE 15 January 1964

TESTER

SUPERVISOR

QA

GEEIA

*Joe Benito*  
*F. H. Hayward*  
*Marie Carey*  
*Ralph S. Berger*



## FEDERAL ELECTRIC CORPORATION

BR11/152

## BIG RALLY II PROJECT

## DATA SHEET

STATIONS ~~IC(IGC)~~ AND OPA(GHO)

## STATION TESTS

## EXPECTED

## ACTUAL

1. Signal Transmit Level	$(-30 \pm 0.5 \text{ dbm})$	<u>-30</u> dbm
2. Bridge Transmit Loss, W Mod	$(-16 \pm 0.5 \text{ dbm})$	<u>-16</u> dbm
3. Amplifier A Gain Adjust, Pos.9-3	$(-16 \pm 0.5 \text{ dbm})$	<u>-16</u> dbm
4. Bridge Receive Loss, Spur Mod	$(-16 \pm 0.5 \text{ dbm})$	<u>-16</u> dbm
5. Amplifier A Gain Adjust, Pos.9-4	$(-5 \pm 0.5 \text{ dbm})$	<u>-5</u> dbm
6. Bridge Transmit Loss, E Mod	$(-16 \pm 0.5 \text{ dbm})$	<u>-16</u> dbm
7. Amplifier B Gain Adjust, Pos.9-3	$(-5 \pm 0.5 \text{ dbm})$	<u>-5</u> dbm
8. Order Wire Receive	(Lamp ON & Buzzer)	<u>A.A.</u> Int

## LINK TESTS

## EXPECTED

## ACTUAL

1. Receive Level		
<del>IC to IGC</del>	$(-5 \pm 1 \text{ dbm})$	<u>        </u> dbm
GPA-IC to GHO Shelter	$(-5 \pm 1 \text{ dbm})$	<u>-5</u> dbm
GPA-IC to GHO LOS Bldg	$(-5 \pm 1 \text{ dbm})$	<u>-5</u> dbm



BRII/152

LINK TESTS

EXPECTED

ACTUAL

2. Signalling

~~IC to ICC~~

(Lamp ON & Buzzer at ICC)

Int

GPA IC to GHO Shelter

(Lamp ON & Buzzer GHO Shelter)

A.A. *ll* Int

GPA IC to GHO LOS Bldg

(Buzzer, GHO LOS Bldg)

A.A. *ll* Int

DATE 7 JANUARY 1964

TESTER

SUPERVISOR

QUALITY ASSURANCE

GEEIA



## FEDERAL ELECTRIC CORPORATION

BR11/156

## BIG RAILY II PROJECT

## DATA SHEET

STATION GPA(GA) GIM, GTA

STATION TESTS	EXPECTED	ACTUAL
1. Signal Transmit Level, Jack Pos. 24	$(-15 \pm 0.5 \text{ dbm})$	<u>N/A</u> dbm
2. Signal Transmit Level, Jack Pos. 26	$(-15 \pm 0.5 \text{ dbm})$	<u>N/A</u> dbm
3. Pad Loss, GAB	$(-21 \pm 0.5 \text{ dbm})$	<u>N/A</u> dbm
4. Pad Loss, GTA	$(-21 \pm 0.5 \text{ dbm})$	<u>-20.7</u> dbm
5. Pad Loss, GIM	$(-21 \pm 0.5 \text{ dbm})$	<u>-20.7</u> dbm
6. Amplifier A Gain Adjust, Pos. 12-6	$(-5 \pm 0.5 \text{ dbm})$	<u>N/A</u> dbm
7. Amplifier B Gain Adjust, Pos. 12-6	$(-5 \pm 0.5 \text{ dbm})$	<u>N/A</u> dbm
8. Amplifier A Gain Adjust, Pos. 12-7	$(-5 \pm 0.5 \text{ dbm})$	<u>N/A</u> dbm
9. Order Wire Receive, GAB	(Lamp 1 ON & Buzzer)	<u>N/A</u> Int
<del>10. Order Wire Receive, GTA</del>	<del>(Lamp 2 ON &amp; Buzzer)</del>	<del><u>MC</u> Int</del>
<del>11. Order Wire Receive, GIM</del>	<del>(Lamp 3 ON &amp; Buzzer)</del>	<del><u>MC</u> Int</del>
<del>12. Order Wire Receive, GPA(GHO)</del>	<del>(Lamp 4 ON &amp; Buzzer)</del>	<del><u>N/A</u> Int</del>

## LINK TESTS

## EXPECTED

## ACTUAL

1. Receive Level		
GPA to GAB	$(-5 \pm 1 \text{ dbm})$	<u>N/A</u> dbm
GPA to GTA	$(-5 \pm 1 \text{ dbm})$	<u>-5.0</u> dbm
GPA to GIM	$(-5 \pm 1 \text{ dbm})$	<u>-4.9</u> dbm
GPA to GHO	$(-5 \pm 1 \text{ dbm})$	<u>N/A</u> dbm



BRII/156

LINK TESTS

EXPECTED

ACTUAL

2. Signalling

GPA to GAB

(Lamp ON & Buzzer at GAS)

N/A Int

GPA to GTA

(Lamp ON & Buzzer at GTA)

mc Int

GPA to GIM

(Lamp ON & Buzzer at GIM)

mc Int

GPA to GHO

(Lamp ON & Buzzer, GHO Shelter)

N/A Int

(Buzzer, GHO LOS Bldg.)

N/A Int

DATE 19 NOV. 1963

TESTER [Signature]

SUPERVISOR [Signature]

QUALITY ASSURANCE [Signature]

GEEIA [Signature]



GPA

## FEDERAL ELECTRIC CORPORATION

BR11/154

## BIG RALLY II PROJECT

## DATA SHEET

## STATION GHO(GPA)

## STATION TESTS

	EXPECTED	ACTUAL
1. Signal Transmit Level	$(-30 \pm 0.5 \text{ dbm})$	<u>-30</u> dbm
2. Bridge Transmit Loss, W Mod	$(-16 \pm 0.5 \text{ dbm})$	<u>-16</u> dbm
3. Amplifier B Gain Adjust, Pos. 9-3	$(0 \pm 0.5 \text{ dbm})$	<u>0</u> dbm
4. Amplifier A Gain Adjust, Pos. 9-3	$(0 \pm 0.5 \text{ dbm})$	<u>0</u> dbm
5. Bridge Receive Loss, Spur Mod	$(-16 \pm 0.5 \text{ dbm})$	<u>-16</u> dbm
6. Amplifier B Gain Adjust, Pos. 9-4	$(-5 \pm 0.5 \text{ dbm})$	<u>-5</u> dbm
7. Bridge Transmit Loss, E Mod	$(-16 \pm 0.5 \text{ dbm})$	<u>-16</u> dbm
8. Amplifier A Gain Adjust, Pos. 9-4	$(-16 \pm 0.5 \text{ dbm})$	<u>-16</u> dbm
9. Order Wire Receive	(Lamp ON & Buzzer)	<u>RSK</u> Int

## LINK TESTS

	EXPECTED	ACTUAL
1. Receive Level, GPA Shelter	$(-5 \pm 1 \text{ dbm})$	<u>-5</u> dbm
2. Signalling		
GHO to GPA Shelter	(Lamp ON & Buzzer at GPA)	<u>RSK</u> Int
GHO to GPA LOS Bldg	(Lamp 4 ON & Buzzer at GPA)	<u>RSK</u> Int

DATE 7 January 1964TESTER W. J. GraySUPERVISOR W. J. MallonQUALITY ASSURANCE M. CarbyGEEIA Ralph S. Krueger

3-14



## BIG RALLY II PROJECT

## DATA SHEET

## STATION GHO(GPE AND GAG)

## STATION TESTS

	EXPECTED	ACTUAL
1. Signal Transmit Level	$(-15 \pm 0.5 \text{ dbm})$	<u>-15</u> dbm
2. Pad Loss	$(-21 \pm 1.0 \text{ db})$ <del><math>(-20 \pm 0.5 \text{ dbm})</math></del>	<u>-21</u> dbm
3. Amplifier B Gain Adjust, Pos. 12-6	$(-5 \pm 0.5 \text{ dbm})$	<u>-5</u> dbm
4. Pad Loss	$(-21 \pm 1.0 \text{ db})$ <del><math>(-20 \pm 0.5 \text{ dbm})</math></del>	<u>-21</u> dbm
5. Amplifier A Gain Adjust, Pos. 12-6	$(-5 \pm 0.5 \text{ dbm})$	<u>-5</u> dbm
<del>6. Oscillator Level Adjust</del>	<del><math>(0 \text{ dbm} \pm 0.0 \text{ dbm})</math></del>	<del><u>0</u> dbm</del>
7. Bridge Transmit Loss, W Mod	$(-16 \pm 0.5 \text{ dbm})$	<u>-16</u> dbm
8. Amplifier A Gain Adjust, Pos. 12-7	$(-5 \pm 0.5 \text{ dbm})$	<u>-5</u> dbm
9. Bridge Receive Loss, Spur Mod	$(-16 \pm 0.5 \text{ dbm})$	<u>-16</u> dbm
10. Amplifier B Gain Adjust, Pos. 12-7	$(-5 \pm 0.5 \text{ dbm})$	<u>-5</u> dbm
11. Bridge Transmit Loss, E Mod	$(-16 \pm 0.5 \text{ dbm})$	<u>-16</u> dbm
12. Order Wire Receive	(Lamp ON & Buzzer)	<u>RSK</u> Int
13. Order Wire Receive (GAG CKT)	(Lamp 2 ON & Buzzer)	<u>RSK</u> Int
14. Order Wire Receive (GPE CKT)	(Lamp 1 ON & Buzzer)	<u>RSK</u> Int

## LINK TESTS

	EXPECTED	ACTUAL
1. Receive Level		
GHO to GAG	$(-5 \pm 1 \text{ dbm})$	<u>-5.2</u> dbm
GHO to GPE	$(-5 \pm 1 \text{ dbm})$	<u>-5.0</u> dbm



LINK TESTS

1. Receive Level (Continued)

GHO to GPA Shelter

(-5 ± 1 dbm)

N/A dbm

GHO to GPA Bldg

(-5 ± 1 dbm)

N/A dbm

2. Signalling

GHO to GPA Shelter

(Buzzer at GPA Shelter)

N/A Int

GHO to GPA Bldg

(Lamp 4 & Buzzer, GPA Bldg)

N/A Int

GHO to GAG

(Lamp ON & Buzzer at GAG)

A.A. Int

GHO to GPE

(Lamp ON & Buzzer at GPE)

A.A. Int

DATE 9 January 1964

TESTER

SUPERVISOR

QUALITY ASSURANCE

GEEIA



## BIG RALLY II PROJECT

## DATA SHEET

## TRIBUTARY ORDER WIRE

## STATIONS

GTA(GPA), GPE(GHO), GIM(GPA), GAG(GHO)

TIC(TID), TAL(TKG) AND TIZ(TKR)

STATION GIM

Station Tests	EXPECTED	ACTUAL
1. Bridge Loss		
A. SPUR/MOD	$-20 \pm 0.5$ dbm	<u>-20</u> dbm
B. W MOD	$-20 \pm 0.5$ dbm	<u>-20</u> dbm
C. E MOD	$-20 \pm 0.5$ dbm	<u>-20</u> dbm
2. Amplifier Gain		
A. Amp A, 9-3	$0 \pm 0.5$ dbm	<u>0</u> dbm
B. Amp B, 9-3	$-5 \pm 0.5$ dbm	<u>-5</u> dbm
C. Amp A, 9-4	$-5 \pm 0.5$ dbm	<u>-5</u> dbm
3. Signal TX Level at W MOD	$-35 \pm 0.5$ dbm	<u>-35</u> dbm
4. Signal RX Test	Lamp & Buzzer	<u>RSK INT</u>

Link Tests	EXPECTED	ACTUAL
1. Receive Level		
TIZ to TKR	$(-5 \pm 1)$ dbm	<u>          </u> dbm
TAL to TKG	$(-5 \pm 1)$ dbm	<u>          </u> dbm
TIC to TID	$(-5 \pm 1)$ dbm	<u>          </u> dbm
GAG to GHO	$(-5 \pm 1)$ dbm	<u>          </u> dbm
GPE to GHO	$(-5 \pm 1)$ dbm	<u>          </u> dbm
GIM to GPA	$(-5 \pm 1)$ dbm	<u>4.9</u> dbm
GTA to GPA	$(-5 \pm 1)$ dbm	<u>          </u> dbm



## BIG RALLY II PROJECT

## DATA SHEET

## Link Tests (Continued)

## EXPECTED

## ACTUAL

## 2. Signalling

TIZ to TKR

(Lamp ON &amp; Buzzer at TKR) \_\_\_\_\_ Int

TAL to TKG

(Lamp 2 ON &amp; Buzzer at TKG) \_\_\_\_\_ Int

TIC to TID

(Lamp ON &amp; Buzzer at TID) \_\_\_\_\_ Int

GAG to GH0

(Lamp 2 ON & Buzzer  
at GH0 Bldg) \_\_\_\_\_ Int

GPE to GH0

(Lamp 1 ON & Buzzer  
at GH0 Bldg) \_\_\_\_\_ Int

GIM to GPA

(Lamp 3 ON & Buzzer  
at GPA Bldg) \_\_\_\_\_ RSK Int

GTA to GPA

(Lamp 2 ON & Buzzer  
at GPA Bldg) \_\_\_\_\_ Int

DATE 13 November 1963

TESTER

SUPERVISOR

QUALITY CONTROL

GEEIA



## BIG RALLY II PROJECT

## DATA SHEET

## TRIBUTARY ORDER WIRE

## STATIONS

GTA(GPA), GPE(GHO), GIM(GPA), GAG(GHO)

TIC(TID), TAL(TKG) AND TIZ(TKR)

STATION GTA

## Station Tests

## EXPECTED

## ACTUAL

## 1. Bridge Loss

A. SPUR MOD

 $-20 \pm 0.5$  dbm-20 dbm

B. W MOD

 $-20 \pm 0.5$  dbm-20 dbm

C. E MOD

 $-20 \pm 0.5$  dbm-20 dbm

## 2. Amplifier Gain

A. Amp A, 9-3

 $0 \pm 0.5$  dbm0 dbm

B. Amp B, 9-3

 $-5 \pm 0.5$  dbm-5 dbm

C. Amp A, 9-4

 $-5 \pm 0.5$  dbm-5 dbm

## 3. Signal TX Level at W MOD

 $-35 \pm 0.5$  dbm-35 dbm

## 4. Signal RX Test

Lamp &amp; Buzzer

RSK INT

## Link Tests

## EXPECTED

## ACTUAL

## 1. Receive Level

TIZ to TKR

 $(-5 \pm 1)$  dbm         dbm

TAL to TKG

 $(-5 \pm 1)$  dbm         dbm

TIC to TID

 $(-5 \pm 1)$  dbm         dbm

GAG to GHO

 $(-5 \pm 1)$  dbm         dbm

GPE to GHO

 $(-5 \pm 1)$  dbm         dbm

GIM to GPA

 $(-5 \pm 1)$  dbm         dbm

GTA to GPA

 $(-5 \pm 1)$  dbm-5 dbm



## BIG RALLY II PROJECT

## DATA SHEET

## Link Tests (Continued)

## EXPECTED

## ACTUAL

## 2. Signalling

TIZ to TKR

(Lamp ON &amp; Buzzer at TKR) \_\_\_\_\_ Int

TAL to TKG

(Lamp 2 ON &amp; Buzzer at TKG) \_\_\_\_\_ Int

TIC to TID

(Lamp ON &amp; Buzzer at TID) \_\_\_\_\_ Int

GAG to GH0

(Lamp 2 ON & Buzzer  
at GH0 Bldg) \_\_\_\_\_ Int

GPE to GH0

(Lamp 1 ON & Buzzer  
at GH0 Bldg) \_\_\_\_\_ Int

GIM to GPA

(Lamp 3 ON & Buzzer  
at GPA Bldg) \_\_\_\_\_ Int

GTA to GPA

(Lamp 2 ON & Buzzer  
at GPA Bldg) \_\_\_\_\_ RSK Int

DATE 14 November 1963

TESTER

SUPERVISOR

QUALITY CONTROL

GEEIA



FEDERAL ELECTRIC CORPORATION

BR II/157 Rev.

BIG RALLY II PROJECT

DATA SHEET

TRIBUTARY ORDER WIRE

STATIONS

GTA(GPA), GPE(GHO), GIM(GPA), GAG(GHO)

TIC(TID), TAL(TKG) AND TIZ(TKR)

STATION GAG

Station Tests

	EXPECTED	ACTUAL
1. Bridge Loss		
A. SPUR MOD	-20 $\pm$ 0.5 dbm	-20 dbm
B. W MOD	-20 $\pm$ 0.5 dbm	-20 dbm
C. E MOD	-20 $\pm$ 0.5 dbm	-20 dbm
2. Amplifier Gain		
A. Amp A, 9-3	0 $\pm$ 0.5 dbm	0 dbm
B. Amp B, 9-3	-5 $\pm$ 0.5 dbm	-5 dbm
C. Amp A, 9-4	-5 $\pm$ 0.5 dbm	-5 dbm
3. Signal TX Level at W MOD	-35 $\pm$ 0.5 dbm	-35 dbm
4. Signal RX Test	Lamp & Buzzer	RSK INT

Link Tests

	EXPECTED	ACTUAL
1. Receive Level		
TIZ to TKR	(-5 $\pm$ 1 dbm)	N/A dbm
TAL to TKG	(-5 $\pm$ 1 dbm)	N/A dbm
TIC to TID	(-5 $\pm$ 1 dbm)	N/A dbm
GAG to GHO	(-5 $\pm$ 1 dbm)	N/A dbm
GPE to GHO	(-5 $\pm$ 1 dbm)	N/A dbm
GIM to GPA	(-5 $\pm$ 1 dbm)	N/A dbm
GTA to GPA	(-5 $\pm$ 1 dbm)	N/A dbm

3-21



## BIG RALLY II PROJECT

## DATA SHEET

## Link Tests (Continued)

## EXPECTED

## ACTUAL

2. Signalling

TIZ to TKR

(Lamp ON & Buzzer at TKR) N/A Int

TAL to TKG

(Lamp 2 ON & Buzzer at TKG) N/A Int

TIC to TID

(Lamp ON & Buzzer at TID) N/A Int

GAG to GH0

(Lamp 2 ON & Buzzer  
at GH0 Bldg) RSK Int

GPE to GH0

(Lamp 1 ON & Buzzer  
at GH0 Bldg) N/A Int

GIM to GPA

(Lamp 3 ON & Buzzer  
at GPA Bldg) N/A Int

GTA to GPA

(Lamp 2 ON & Buzzer  
at GPA Bldg) N/A IntDATE 9 January 1964TESTER James J. [unclear]SUPERVISOR Kenneth C. [unclear]QUALITY CONTROL William R. [unclear]GEEIA Ralph S. [unclear]AFCS [unclear]



## BIG RALLY II PROJECT

## DATA SHEET

## TRIBUTARY ORDER WIRE

## STATIONS

GTA(GPA), GPE(GHO), GIM(GPA), GAG(GHO)

TIC(TID), TAL(TKG) AND TIZ(TKR)

STATION GPE

## Station Tests

## EXPECTED

## ACTUAL

1. Bridge Loss		
A. SPUR MOD	$-20 \pm 0.5$ dbm	<u>-20</u> dbm
B. W MOD	$-20 \pm 0.5$ dbm	<u>-20</u> dbm
C. E MOD	$-20 \pm 0.5$ dbm	<u>-20</u> dbm
2. Amplifier Gain		
A. Amp A, 9-3	$0 \pm 0.5$ dbm	<u>0</u> dbm
B. Amp B, 9-3	$-5 \pm 0.5$ dbm	<u>-5</u> dbm
C. Amp A, 9-4	$-5 \pm 0.5$ dbm	<u>-5</u> dbm
3. Signal TX Level at W MOD	$-35 \pm 0.5$ dbm	<u>-35</u> dbm
4. Signal RX Test	Lamp & Buzzer	<u>RSK</u> INT

## Link Tests

## EXPECTED

## ACTUAL

1. Receive Level		
TIZ to TKR	$(-5 \pm 1)$ dbm	<u>N/A</u> dbm
TAL to TKG	$(-5 \pm 1)$ dbm	<u>N/A</u> dbm
TIC to TID	$(-5 \pm 1)$ dbm	<u>N/A</u> dbm
GAG to GHO	$(-5 \pm 1)$ dbm	<u>N/A</u> dbm
GPE to GHO	$(-5 \pm 1)$ dbm	<u>-5</u> dbm
GIM to GPA	$(-5 \pm 1)$ dbm	<u>N/A</u> dbm
GTA to GPA	$(-5 \pm 1)$ dbm	<u>N/A</u> dbm

3-23



## BIG RALLY II PROJECT

## DATA SHEET

## Link Tests (Continued)

## EXPECTED

## ACTUAL

2. Signalling

TIZ to TKR

(Lamp ON & Buzzer at TKR) N/A Int

TAL to TKG

(Lamp 2 ON & Buzzer at TKG) N/A Int

TIC to TID

(Lamp ON & Buzzer at TID) N/A Int

GAG to GHO

(Lamp 2 ON & Buzzer  
at GHO Bldg) RSK Int

GPE to GHO

(Lamp 1 ON & Buzzer  
at GHO Bldg) N/A Int

GIM to GPA

(Lamp 3 ON & Buzzer  
at GPA Bldg) N/A Int

GTA to GPA

(Lamp 2 ON & Buzzer  
at GPA Bldg) N/A IntDATE 10 Jan 64TESTER R. AllenSUPERVISOR George E. V. McQUALITY CONTROL William R. RuffGEEIA Ralph S. Kinger



## FEDERAL ELECTRIC CORPORATION

BR11/158

## BIG RALLY II PROJECT

## DATA SHEET

## STATION TID(TIC)

STATION TESTS	EXPECTED		ACTUAL
1. Signal Transmit Level	$(-15 \pm 0.5 \text{ dbm})$		<u>-15</u> dbm
<del>2. 1 Kc Transmit Insertion Loss</del>	<del><math>(0 \pm 0.5 \text{ dbm})</math></del>	Deleted	<u>R.S.K.</u> dbm
3. Pad Loss ERRATA CHANGE $(-21 \pm 1)$	<del><math>(-20 \pm 0.5 \text{ dbm})</math></del>		<u>-20.9</u> dbm
4. Amplifier A Gain Adjust, Pos. 9-3	$(-5 \pm 0.5 \text{ dbm})$		<u>-5</u> dbm
5. Spare Amplifier Gain Adjust	$(-5 \pm 0.5 \text{ dbm})$		<u>-5</u> dbm
6. Order Wire Receive	(Lamp ON & Buzzer)		<u>R.S.K.</u> Int

LINK TESTS	EXPECTED	ACTUAL
1. Receive Level	$(-5 \pm 1 \text{ dbm})$	<u>-5</u> dbm
2. Signalling	(Lamp ON & Buzzer at TIC)	<u>R.S.K.</u> Int

DATE 28 Nov. 1963

TESTER J. W. K.SUPERVISOR Russell E. CarterQUALITY ASSURANCE Patrick J. HuntGEFIA Ralph S. Krueger

AFCS

3-25



## BIG RALLY II PROJECT

## DATA SHEET

## TRIBUTARY ORDER WIRE

## STATIONS

GTA(GPA), GPE(GHO), GIM(GPA), GAG(GHO)

TIC(TID), TAL(TKG) AND TIZ(TKR)STATION TIC

## Station Tests.

## EXPECTED

## ACTUAL

1. Bridge Loss		
A. SPUR MOD	$-20 \pm 0.5$ dbm	<u>-20.2</u> dbm
B. W MOD	$-20 \pm 0.5$ dbm	<u>-20.0</u> dbm
C. E MOD	$-20 \pm 0.5$ dbm	<u>-20.0</u> dbm
2. Amplifier Gain		
A. Amp A, 9-3	$0 \pm 0.5$ dbm	<u>0</u> dbm
B. Amp B, 9-3	$-5 \pm 0.5$ dbm	<u>-5.0</u> dbm
C. Amp A, 9-4	$-5 \pm 0.5$ dbm	<u>-5.0</u> dbm
3. Signal TX Level at W MOD	$-35 \pm 0.5$ dbm	<u>-35.0</u> dbm
4. Signal RX Test	Lamp & Buzzer <u>NO LAMP</u>	<u>J.L.</u> INT

## Link Tests

## EXPECTED

## ACTUAL

1. Receive Level		
TIZ to TKR	$(-5 \pm 1)$ dbm	_____ dbm
TAL to TKG	$(-5 \pm 1)$ dbm	_____ dbm
TIC to TID	$(-5 \pm 1)$ dbm	<u>-5.0</u> dbm
GAG to GHO	$(-5 \pm 1)$ dbm	_____ dbm
GPE to GHO	$(-5 \pm 1)$ dbm	_____ dbm
GIM to GPA	$(-5 \pm 1)$ dbm	_____ dbm
GTA to GPA	$(-5 \pm 1)$ dbm	_____ dbm

3-26



## BIG RALLY II PROJECT

## DATA SHEET

## Link Tests (Continued)

## EXPECTED

## ACTUAL

## 2. Signalling

TIZ to TKR

(Lamp ON & Buzzer at TKR) N/A Int

TAL to TKG

(Lamp 2 ON & Buzzer at TKG) N/A Int

TIC to TID

(Lamp ON & Buzzer at TID) N/A Int

GAG to GH0

(Lamp 2 ON & Buzzer  
at GH0 Bldg) N/A Int

GPE to GH0

(Lamp 1 ON & Buzzer  
at GH0 Bldg) N/A Int

GIM to GPA

(Lamp 3 ON & Buzzer  
at GPA Bldg) N/A Int

GTA to GPA

(Lamp 2 ON & Buzzer  
at GPA Bldg) N/A IntDATE 28 NOVEMBER 1963TESTER [Signature]SUPERVISOR [Signature]QUALITY CONTROL [Signature]GEEIA [Signature]

3-27



## FEDERAL ELECTRIC CORPORATION

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## BIG RALLY II PROJECT

## DATA SHEET

STATION TKG(TAL)

## STATION TESTS

## EXPECTED

## ACTUAL

1. Signal Transmit Level, Jack Pos. 21	$(-15 \pm 0.5 \text{ dbm})$	-15.0 dbm
2. Signal Transmit Level, Jack Pos. 26	$(-15 \pm 0.5 \text{ dbm})$	-15.0 dbm
3. Pad Loss, TCO ✓	$(-16 \pm 0.5 \text{ dbm})$	-16.5 dbm
4. Pad Loss, TAL	$(-21 \pm 1.0 \text{ dbm})$ $(-20 \pm 0.5 \text{ dbm})^*$	* -20.8 dbm
5. Pad Loss, TKA	$(-21 \pm 1.0 \text{ dbm})$ $(-20 \pm 0.5 \text{ dbm})^*$	* -20.7 dbm
6. Pad Loss, TES	$(-16 \pm 0.5 \text{ dbm})$	-16.1 dbm
7. Amplifier A Gain Adjust, Pos. 12-6	$(-5 \pm 0.5 \text{ dbm})$	N/A dbm
8. Amplifier B Gain Adjust, Pos. 12-6	$(-5 \pm 0.5 \text{ dbm})$	N/A dbm
<del>9. Order Wire Receive, TCO</del>	<del>(Lamp 1 ON &amp; Buzzer)</del>	N/A Int
<del>10. Order Wire Receive, TAL</del>	<del>(Lamp 2 ON &amp; Buzzer)</del>	N/A Int
<del>11. Order Wire Receive, TKA</del>	<del>(Lamp 3 ON &amp; Buzzer)</del>	N/A Int
<del>12. Order Wire Receive, TES</del>	<del>(Lamp 4 ON &amp; Buzzer)</del>	N/A Int

\* OUT OF SPEC.

## LINK TESTS

## EXPECTED

## ACTUAL

## 1.. Receive Level

✓ TKG to TCO	$(-5 \pm 1 \text{ dbm})$	-4.7 dbm
TKG to TAL	$(-5 \pm 1 \text{ dbm})$	-4.0 dbm
TKG to TKA	$(-5 \pm 1 \text{ dbm})$	N/A dbm
TKG to TES	$(-5 \pm 1 \text{ dbm})$	-5.0 dbm

3-28



## LINK TESTS

## EXPECTED

## ACTUAL

## 2. Signalling

TKG to TCO

(Lamp ON &amp; Buzzer at TCO)

OK Int

TKG to TAL

(Lamp ON &amp; Buzzer at TAL)

OK Int

TKG to TKA

(Lamp ON &amp; Buzzer at TKA)

OK Int

TKG to TES

(Lamp ON &amp; Buzzer at TKA)

OK IntDATE 17 December 1962TESTER Ronald T. B. G.SUPERVISOR William L. BridgelyQUALITY ASSURANCE Joseph M. B. G.GEEIA Ronald A. Holman



## BIG RALLY II PROJECT

## DATA SHEET

STATION TKG(TAL) TKA

STATION TESTS	EXPECTED	ACTUAL
1. Signal Transmit Level, Jack Pos. 24	$(-15 \pm 0.5 \text{ dbm})$	<u>-15.0</u> dbm
2. Signal Transmit Level, Jack Pos. 26	$(-15 \pm 0.5 \text{ dbm})$	<u>-15.0</u> dbm
3. Pad Loss, TCO	$(-16 \pm 0.5 \text{ dbm})$	<u>N/A</u> dbm
4. Pad Loss, TAL	$(-20 \pm 0.5 \text{ dbm})$	<u>N/A</u> dbm
5. Pad Loss, TKA	$(-20 \pm 0.5 \text{ dbm})$	<u>-19.5</u> dbm
6. Pad Loss, TES	$(-16 \pm 0.5 \text{ dbm})$	<u>N/A</u> dbm
7. Amplifier A Gain Adjust, Pos. 12-6	$(-5 \pm 0.5 \text{ dbm})$	<u>-5.0</u> dbm
8. Amplifier B Gain Adjust, Pos. 12-6	$(-5 \pm 0.5 \text{ dbm})$	<u>-5.0</u> dbm
9. Order Wire Receive, TCO	(Lamp 1 ON & Buzzer)	<u>N/A</u> Int
10. Order Wire Receive, TAL	(Lamp 2 ON & Buzzer)	<u>N/A</u> Int
11. Order Wire Receive, TKA	(Lamp 3 ON & Buzzer)	<u>N/A</u> Int
12. Order Wire Receive, TES	(Lamp 4 ON & Buzzer)	<u>N/A</u> Int

LINK TESTS	EXPECTED	ACTUAL
1. Receive Level		
TKG to TCO	$(-5 \pm 1 \text{ dbm})$	<u>N/A</u> dbm
TKG to TAL	$(-5 \pm 1 \text{ dbm})$	<u>N/A</u> dbm
TKG to TKA	$(-5 \pm 1 \text{ dbm})$	<u>-5.0</u> dbm
TKG to TES	$(-5 \pm 1 \text{ dbm})$	<u>N/A</u> dbm

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LINK TESTS

EXPECTED

ACTUAL

2. Signalling

TKG to TCO

(Lamp ON & Buzzer at TCO)

N/A Int

TKG to TAL

(Lamp ON & Buzzer at TAL)

N/A Int

TKG to TKA

(Lamp ON & Buzzer at TKA)

OK Int

TKG to TES

(Lamp ON & Buzzer at TKA)

N/A Int

DATE 24 OCTOBER 1963

TESTER

SUPERVISOR

QUALITY ASSURANCE

GEFIA



## BIG RALLY II PROJECT

## DATA SHEET

## TRIBUTARY ORDER WIRE

## STATIONS

GTA(GPA), GPE(GHO), GIM(GPA), GAG(GHO)

TIC(TID), TAL(TKG) AND TIZ(TKR)STATION TAL

## Station Tests

## EXPECTED

## ACTUAL

## 1. Bridge Loss

A. SPUR MOD

 $-20 \pm 0.5$  dbm-20 dbm

B. W MOD

 $-20 \pm 0.5$  dbm-20 dbm

C. E MOD

 $-20 \pm 0.5$  dbm-20 dbm

## 2. Amplifier Gain

A. Amp A, 9-3

 $0 \pm 0.5$  dbm0 dbm

B. Amp B, 9-3

 $-5 \pm 0.5$  dbm-5 dbm

C. Amp A, 9-4

 $-5 \pm 0.5$  dbm-5 dbm

## 3. Signal TX Level at W MOD

 $-35 \pm 0.5$  dbm-35 dbm

## 4. Signal RX Test

Lamp &amp; Buzzer

-9  
RCG INT

## Link Tests

## EXPECTED

## ACTUAL

## 1. Receive Level

TIZ to TKR

 $(-5 \pm 1)$  dbmN/A dbm

TAL to TKG

 $(-5 \pm 1)$  dbm-5.2 dbm

TIC to TID

 $(-5 \pm 1)$  dbmN/A dbm

GAG to GHO

 $(-5 \pm 1)$  dbmN/A dbm

GPE to GHO

 $(-5 \pm 1)$  dbmN/A dbm

GIM to GPA

 $(-5 \pm 1)$  dbmN/A dbm

GTA to GPA

 $(-5 \pm 1)$  dbmN/A dbm



## BIG RALLY II PROJECT

## DATA SHEET

## Link Tests (Continued)

## EXPECTED

## ACTUAL

## 2. Signalling

TIZ to TKR

(Lamp ON & Buzzer at TKR) N/A Int

TAL to TKG

(Lamp 2 ON & Buzzer at TKG) RCG Int

TIC to TID

(Lamp ON & Buzzer at TID) N/A Int

GAG to GHO

(Lamp 2 ON & Buzzer  
at GHO Bldg) N/A Int

GPE to GHO

(Lamp 1 ON & Buzzer  
at GHO Bldg) N/A Int

GIM to GPA

(Lamp 3 ON & Buzzer  
at GPA Bldg) N/A Int

GTA to GPA

(Lamp 2 ON & Buzzer  
at GPA Bldg) N/A IntDATE 13 DECEMBER, 1963TESTER *[Signature]*SUPERVISOR *[Signature]*QUALITY CONTROL *[Signature]*GEEIA *[Signature]*



## FEDERAL ELECTRIC CORPORATION

BR11/151

## BIG RALLY II PROJECT

## DATA SHEET

STATIONS IGC(IC), GEL(GAB, TCO(TKG)) AND TES(TKG)

## STATION TESTS

## EXPECTED

## ACTUAL

1. Signal Transmit Level	$(-30 \pm 0.5 \text{ dbm})$	<u>- 30</u> dbm
2. Bridge Transmit Loss, W Mod	$(-15 \pm 0.5 \text{ dbm})$	<u>- 16</u> dbm
<del>3. Amplifier A Gain Adjust, Pos. 9-3</del>	<del><math>(-16 \pm 0.5 \text{ dbm})</math></del>	<u>N/A</u> dbm
4. Bridge Receive Loss, Spur Mod.	$(-16 \pm 0.5 \text{ dbm})$	<u>- 16</u> dbm
5. Amplifier A Gain Adjust, Pos. 9-4	$(-5 \pm 0.5 \text{ dbm})$	<u>- 5</u> dbm
6. Bridge Transmit Loss, E Mod	$(-16 \pm 0.5 \text{ dbm})$	<u>- 16</u> dbm
7. Amplifier B Gain Adjust, Pos. 9-3	$(-5 \pm 0.5 \text{ dbm})$	<u>- 5</u> dbm
8. Order Wire Receive	(Lamp ON & Buzzer)	<u>KNM</u> Int

## LINK TESTS

## EXPECTED

## ACTUAL

1. Receive Level		
TCO to TKG	$(-5 \pm 1 \text{ dbm})$	<u>- 5</u> dbm
TES to TKG	$(-5 \pm 1 \text{ dbm})$	<u>N/A</u> dbm
IGC to IC Shelter	$(-5 \pm 1 \text{ dbm})$	<u>N/A</u> dbm
IGC to IC Van	$(-5 \pm 1 \text{ dbm})$	<u>N/A</u> dbm
GEL to GAB	$(-5 \pm 1 \text{ dbm})$	<u>N/A</u> dbm



BRII/151

LINK TESTS

EXPECTED

ACTUAL

2. Signalling

TCO to TKG

(Lamp 1 ON & Buzzer at TKG) KNM Int

TES to TKG

(Lamp 4 ON & Buzzer at TKG) N/A Int

IGC to IC Shelter

(Lamp ON & Buzzer, IC Shelter N/A Int

IGC to IC Van

(Lamp ON & Buzzer, IC Van) N/A Int

GEL to GAB

(Lamp ON & Buzzer at GAB) N/A Int

DATE 12 DEC. 1963

TESTER K. Cullen

SUPERVISOR \_\_\_\_\_

QUALITY ASSURANCE

J. Klempeter

GEEIA

Ralph S. Burger

Sheet 2 of 2

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## FEDERAL ELECTRIC CORPORATION

BRIT/151

## BIG RALLY II PROJECT

## DATA SHEET

STATIONS IGC(IC), GEL(GAB, TCO)(TKG) AND TES(TKG)

STATION TESTS	EXPECTED	ACTUAL
1. Signal Transmit Level	$(-30 \pm 0.5 \text{ dbm})$	<u>-30.0</u> dbm
2. Bridge Transmit Loss, W Mod	$(-15 \pm 0.5 \text{ dbm})$	<u>-16.0</u> dbm
<del>3. Amplifier A Gain Adjust, Pos. 9-3</del>	<del><math>(-16 \pm 0.5 \text{ dbm})</math></del>	<u>N/A</u> dbm
4. Bridge Receive Loss, Spur Mod.	$(-16 \pm 0.5 \text{ dbm})$	<u>-16.0</u> dbm
5. Amplifier A Gain Adjust, Pos. 9-4	$(-5 \pm 0.5 \text{ dbm})$	<u>-5.0</u> dbm
6. Bridge Transmit Loss, E Mod	$(-16 \pm 0.5 \text{ dbm})$	<u>-16.0</u> dbm
7. Amplifier B Gain Adjust, Pos. 9-3	$(-5 \pm 0.5 \text{ dbm})$	<u>-5.0</u> dbm
8. Order Wire Receive	(Lamp ON & Buzzer)	<u>RCI</u> Int

LINK TESTS	EXPECTED	ACTUAL
1. Receive Level		
TCO to TKG	$(-5 \pm 1 \text{ dbm})$	<u>N/A</u> dbm
TES to TKG	$(-5 \pm 1 \text{ dbm})$	<u>-5.0</u> dbm
IGC to IC Shelter	$(-5 \pm 1 \text{ dbm})$	<u>N/A</u> dbm
IGC to IC Van	$(-5 \pm 1 \text{ dbm})$	<u>N/A</u> dbm
GEL to GAB	$(-5 \pm 1 \text{ dbm})$	<u>N/A</u> dbm



BRII/151

LINK TESTS

EXPECTED

ACTUAL

2. Signalling

TCO to TKG

(Lamp 1 ON & Buzzer at TKG) N/A Int

TES to TKG

(Lamp 4 ON & Buzzer at TKG) RCI Int

IGC to IC Shelter

(Lamp ON & Buzzer, IC Shelter N/A Int

IGC to IC Van

(Lamp ON & Buzzer, IC Van) N/A Int

GEL to GAB

(Lamp ON & Buzzer at GAB) N/A Int

DATE 15 December 1963

TESTER

M. Bush

SUPERVISOR

A. C. Allcock

QUALITY ASSURANCE

Stan Randall

GEEIA

Ralph S. Greger

Sheet 2 of 2

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## FEDERAL ELECTRIC CORPORATION

BR11/160

## BIG RALLY II PROJECT

## DATA SHEET

STATIONS ~~TKR AND~~ TKA

## STATION TESTS

## EXPECTED

## ACTUAL

1. Signal Transmit Level	$(-30 \pm 0.5 \text{ dbm})$	<u>-30</u> dbm
2. Bridge Transmit Loss, W Mod	$(-20 \pm 0.5 \text{ dbm})$	<u>-20</u> dbm
3. Amplifier A Gain Adjust, Pos 9-3	$(0 \pm 0.5 \text{ dbm})$	<u>0</u> dbm
4. Bridge Receive Loss, Spur Mod	$(-20 \pm 0.5 \text{ dbm})$	<u>-20.5</u> dbm
5. Amplifier A Gain Adjust, Pos. 9-4	$(-5 \pm 0.5 \text{ dbm})$	<u>-5</u> dbm
6. Bridge Transmit Loss, E Mod	$(-20 \pm 0.5 \text{ dbm})$	<u>-20</u> dbm
7. Amplifier B Gain Adjust, Pos. 9-3	$(0 \pm 0.5 \text{ dbm})$	<u>0</u> dbm
8. Order Wire Receive	(Lamp ON & Buzzer)	<u>GK</u> Int

## LINK TESTS

## EXPECTED

## ACTUAL

1. Receive Level		
TKR to TKA	$(-5 \pm 1 \text{ dbm})$	<u>      </u> dbm
TKR to TIZ	$(-5 \pm 1 \text{ dbm})$	<u>      </u> dbm
TKA to TKR	$(-5 \pm 1 \text{ dbm})$	<u>-5</u> dbm
TKA to TKG	$(-5 \pm 1 \text{ dbm})$	<u>-5</u> dbm



BRII/160

LINK TESTS

EXPECTED

ACTUAL

2. Signalling

TKR to TKA

(Lamp ON & Buzzer at TKA)

GK Int

TKR to TIZ

(Lamp ON & Buzzer at TIZ)

GK Int

TKA to TKR

(Lamp ON & Buzzer at TKR)

GK Int

TKA to TKG

(Lamp 3 ON & Buzzer at TKG)

GK Int

DATE 22 OCTOBER, 1963

TESTER

SUPERVISOR

QUALITY ASSURANCE

GEEIA



## FEDERAL ELECTRIC CORPORATION

BRII/160

## BIG RALLY II PROJECT

## DATA SHEET

STATIONS TKR AND ~~TKA~~

SITE TKR

## STATION TESTS

## EXPECTED

## ACTUAL

1. Signal Transmit Level	$(-30 \pm 0.5 \text{ dbm})$	<u>-30.0</u> dbm
2. Bridge Transmit Loss, W Mod	$(-20 \pm 0.5 \text{ dbm})$	<u>-20.0</u> dbm
3. Amplifier A Gain Adjust, Pos 9-3	$(0 \pm 0.5 \text{ dbm})$	<u>0</u> dbm
4. Bridge Receive Loss, Spur Mod	$(-20 \pm 0.5 \text{ dbm})$	<u>-20.5</u> dbm
5. Amplifier A Gain Adjust, Pos. 9-4	$(-5 \pm 0.5 \text{ dbm})$	<u>-5.0</u> dbm
6. Bridge Transmit Loss, E Mod	$(-20 \pm 0.5 \text{ dbm})$	<u>-20.3</u> dbm
7. Amplifier B Gain Adjust, Pos. 9-3	$(0 \pm 0.5 \text{ dbm})$	<u>0</u> dbm
8. Order Wire Receive	(Lamp ON & Buzzer)	<u>JHT</u> Int

## LINK TESTS

## EXPECTED

## ACTUAL

1. Receive Level		
TKR to TKA	$(-5 \pm 1 \text{ dbm})$	<u>-5</u> dbm
TKR to TIZ	$(-5 \pm 1 \text{ dbm})$	<u>1.1/19</u> dbm
TKA to TKR	$(-5 \pm 1 \text{ dbm})$	<u>-5</u> dbm
TKA to TKG	$(-5 \pm 1 \text{ dbm})$	<u>-5</u> dbm



BRII/160

LINK TESTS

EXPECTED

ACTUAL

2. Signalling

TKR to TKA

(Iamp ON & Buzzer at TKA)

JHT Int

TKR to TIZ

(Iamp ON & Buzzer at TIZ)

N/A Int

TKA to TKR

(Iamp ON & Buzzer at TKR)

RSK Int

TKA to TKG

(Iamp 3 ON & Buzzer at TKG)

RSK Int

DATE 22 OCTOBER 1963

TESTER \_\_\_\_\_

SUPERVISOR *James J. H. Jones*

QUALITY ASSURANCE *Don Randall*

CEBIA *Ralph S. Henger*



## BIG RALLY II PROJECT

## DATA SHEET

## TRIBUTARY ORDER WIRE

## STATIONS

GTA(GPA), GPE(GHO), GIM(GPA), GAG(GHO)

TIC(TID), TAL(TKG) AND TIZ(TKR)STATION TIZ

## Station Tests

## EXPECTED

## ACTUAL

## 1. Bridge Loss

A. SPUR MOD

 $-20 \pm 0.5$  dbm-20 dbm

B. W MOD

 $-20 \pm 0.5$  dbm-20 dbm

C. E MOD

 $-20 \pm 0.5$  dbm-20 dbm

## 2. Amplifier Gain

A. Amp A, 9-3

 $0 \pm 0.5$  dbm0 dbm

B. Amp B, 9-3

 $-5 \pm 0.5$  dbm-5 dbm

C. Amp A, 9-4

 $-5 \pm 0.5$  dbm-5 dbm

## 3. Signal TX Level at W MOD

 $-35 \pm 0.5$  dbm-35 dbm

## 4. Signal RX Test

Lamp &amp; Buzzer

IL INT

## Link Tests

## EXPECTED

## ACTUAL

## 1. Receive Level

TIZ to TKR

 $(-5 \pm 1)$  dbm-5 dbm

TAL to TKG

 $(-5 \pm 1)$  dbmN/A dbm

TIC to TID

 $(-5 \pm 1)$  dbmN/A dbm

GAG to GHO

 $(-5 \pm 1)$  dbmN/A dbm

GPE to GHO

 $(-5 \pm 1)$  dbmN/A dbm

GIM to GPA

 $(-5 \pm 1)$  dbmN/A dbm

GTA to GPA

 $(-5 \pm 1)$  dbmN/A dbm



## BIG RALLY II PROJECT

## DATA SHEET

## Link Tests (Continued)

## EXPECTED

## ACTUAL

## 2. Signalling

TIZ to TKR

(Lamp ON &amp; Buzzer at TKR)

JL

Int

TAL to TKG

(Lamp 2 ON &amp; Buzzer at TKG)

N/A

Int

TIC to TID

(Lamp ON &amp; Buzzer at TID)

N/A

Int

GAG to GH0

(Lamp 2 ON & Buzzer  
at GH0 Bldg)N/A

Int

GPE to GH0

(Lamp 1 ON & Buzzer  
at GH0 Bldg)N/A

Int

GIM to GPA

(Lamp 3 ON & Buzzer  
at GPA Bldg)N/A

Int

GTA to GPA

(Lamp 2 ON & Buzzer  
at GPA Bldg)N/A

Int

DATE 10 NOVEMBER, 1963TESTER James GoodlawSUPERVISOR Paul [unclear]QUALITY CONTROL J.M. KlumpkeGEEIA A. [unclear]



## BIG RALLY II PROJECT

## DATA SHEET

## TECHNICAL CONTROL STATION TEST

## STATION GK

	EXPECTED	ACTUAL
1. Bridge Loss, KMT 4440		
A. SPUR MOD	-8 $\pm$ 1 dbm	-8 dbm
B. E MOD	-8 $\pm$ 1 dbm	-8 dbm
C. W MOD	-8 $\pm$ 1 dbm	-8 dbm
D. AMP IN	-8 $\pm$ 1 dbm	-8 dbm
2. Amp Gain, KMT 4501 and Term Set Loss, KMT 4430		
A. AMP IN	-8 $\pm$ 0.5 dbm	-8 dbm
B. OUT, Amp A, Pos <del>xxx</del> 6-4	+7 $\pm$ 0.5 dbm	+7 dbm
C. MOD	-1 $\pm$ 0.5 dbm	-.6 dbm
D. REC HYB	-5 $\pm$ 0.5 dbm	-5 dbm
E. OUT, Amp B, Pos <del>xxxx</del> 6-4	-4 $\pm$ 0.5 dbm	-4 dbm
F. OUT, Amp A, Pos <del>xxxx</del> 12-1	0 $\pm$ 0.5 dbm	0 dbm
G. SPUR MOD <del>-not installed</del>	-8 $\pm$ 0.5 dbm	-8 dbm
H. <sup>demo</sup> SPUR MOD -not installed	-8 $\pm$ 0.5 dbm	dbm
I. OUT, Amp B, Pos <del>xxx</del> not installed.	-4 $\pm$ 0.5 dbm	dbm
3. Pad Loss, KMT 4401		
A. OUT, Pad A, Pos <del>xxx</del> 12-3	-16 $\pm$ 0.5 dbm	-16 dbm
B. OUT, Pad B, Pos <del>xxx</del> 12-3	-16 $\pm$ 0.5 dbm	-16 dbm
C. OUT, Pad A, Pos 9-2	-16 $\pm$ 0.5 dbm no pad installed	dbm
4. Tone Osc Level		
AMP IN, KMT 4440	-18 $\pm$ 0.5 dbm	-18 dbm

NOTE: Place N/A in the ACTUAL Column when the measurement does not apply at the Station under test.

Note: original positions designations not on chassis, only those noted by corrections.

DATE 17 January 1964

TESTER

B. Grey me

SUPERVISOR

M. B. Albridge

QA

W. A. Carey

GEEIA

Ralph H. Singer

3-44



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
TECHNICAL CONTROL STATION TEST

BRII/147 Rev.

STATION GAR

	EXPECTED	ACTUAL
1. Receive Level		
A. REC HYB	0 $\pm$ 0.5 dbm	<u>0</u> dbm
B. OUT, Pad A	-5 $\pm$ 0.5 dbm	<u>-5</u> dbm
2. Transmit Level		
A. MOD	<u>-4</u> $\pm$ 0.5 dbm	<u>-4</u> dbm
B. OUT, Pad B	<u>-4</u> $\pm$ 0.5 dbm	<u>-3</u> dbm
3. Tone Osc Level		
MOD	-15 $\pm$ 0.5 dbm	<u>-15</u> dbm

DATE 15 January 1964

TESTER

*W. Barrett*

SUPERVISOR

*F. H. Tappan*

QA

*W. C. Carr*

GEEIA

*Ralph L. Bruger*



## BIG RALLY II PROJECT

## DATA SHEET

## TECHNICAL CONTROL STATION TEST

STATION GPA-2 only

	EXPECTED	ACTUAL
1. Bridge Loss, KMT 4440		
A. SPUR MOD	$-8 \pm 1$ dbm	<u>-7.5</u> dbm
B. E MOD	$-8 \pm 1$ dbm	<u>-7.5</u> dbm
C. W MOD	$-8 \pm 1$ dbm	<u>-7.6</u> dbm
D. AMP IN	$-8 \pm 1$ dbm	<u>-7.6</u> dbm
2. Pad Loss, KMT 4401		
A. OUT, Pad A, Pos 3-2	$-16 \pm 0.5$ dbm	<u>-16</u> dbm
B. OUT, Pad B, Pos 3-2	$-16 \pm 0.5$ dbm	<u>-16</u> dbm
C. OUT, Pad B, Pos 3-3	$-16 \pm 0.5$ dbm	<u>-16</u> dbm
D. OUT, Pad A, Pos 3-3	$-16 \pm 0.5$ dbm	<u>-16</u> dbm

DATE 15 November 1963

TESTER

SUPERVISOR

QUALITY ASSURANCE

GEEIA



## BIG RALLY II PROJECT

## DATA SHEET

## TECHNICAL CONTROL STATION TEST

STATION (Check one) ID \_\_\_\_\_, IC \_\_\_\_\_, GPA-1 \_\_\_\_\_, GHO-GPE/GAG

	EXPECTED	ACTUAL
1. Bridge Loss, KMT 4440		
A. SPUR MOD	$-8 \pm 1$ dbm	<u>-8</u> dbm
B. E MOD	$-8 \pm 1$ dbm	<u>-8</u> dbm
C. W MOD	$-8 \pm 1$ dbm	<u>-8</u> dbm
D. AMP IN	$-8 \pm 1$ dbm	<u>-8</u> dbm
2. Amp Gain, KMT 4501, and Term Set Loss, KMT 4430		
A. AMP IN	$-8 \pm 0.5$ dbm	<u>-8</u> dbm
B. OUT, Amp A, Pos 6-5	$+7 \pm 0.5$ dbm	<u>+7</u> dbm
C. MOD	$-1 \pm 0.5$ dbm	<u>-1.5</u> dbm
D. REC HYB	$-5 \pm 0.5$ dbm	<u>-5</u> dbm
E. OUT, Amp B, Pos 6-5	$-4 \pm 0.5$ dbm	<u>-4</u> dbm
F. OUT, Amp A, Pos 9-1	$+7 \pm 0.5$ dbm	<u>N/A</u> dbm
G. SPUR MOD	$-8 \pm 0.5$ dbm	<u>N/A</u> dbm
3. Pad Loss, KMT 4401		
A. OUT, Pad A, Pos 9-3	$-16 \pm 0.5$ dbm	<u>-16</u> dbm
B. OUT, Pad B, Pos 9-3	$-16 \pm 0.5$ dbm	<u>-16</u> dbm
C. OUT, Pad A, Pos 9-2	$-16 \pm 0.5$ dbm	<u>-16</u> dbm
4. Tone Osc Level		
AMP IN, KMT 4440	$-18 \pm 0.5$ dbm	<u>-18</u> dbm

NOTE: Place N/A in the ACTUAL Column when the measurement does not apply at the Station under test.

DATE 8 January 1964TESTER W. S. RoneySUPERVISOR Ed MaffeiQUALITY ASSURANCE W. C. OrrGEEIA Ralph L.



FEDERAL ELECTRIC CORPORATION  
BIG RALLY II PROJECT  
DATA SHEET  
TECHNICAL CONTROL STATION TEST

BR II/144 Rev.

STATION (Check One) GEL \_\_\_\_\_, TID \_\_\_\_\_, GTA \_\_\_\_\_, GIM XXX,  
~~GIM~~ \_\_\_\_\_, GPE \_\_\_\_\_, GAG \_\_\_\_\_  
GHO \_\_\_\_\_

	EXPECTED	ACTUAL
1. Receive Level		
A. REC HYB	$-6 \pm 0.5$ dbm	<u>-5.75</u> dbm
B. OUT, Pad A	$-5 \pm 0.5$ dbm	<u>-5</u> dbm
2. Transmit Level		
A. MOD	$-16 \pm 0.5$ dbm	<u>-16</u> dbm
B. OUT, Pad B	$-15 \pm 0.5$ dbm	<u>-15</u> dbm
3. Tone Osc Level		
MOD	$-26 \pm 0.5$ dbm	<u>-26</u> dbm

DATE 12 November 1963  
TESTER [Signature]  
SUPERVISOR [Signature]  
QUALITY ASSURANCE [Signature]  
GEEIA Ralph S. Kruger



## BIG RALLY II PROJECT

## DATA SHEET

## TECHNICAL CONTROL STATION TEST

STATION (Check One) GEL \_\_\_\_\_, TID \_\_\_\_\_, GTA XXX, GIM \_\_\_\_\_,  
GIM \_\_\_\_\_, GPE \_\_\_\_\_, GAG \_\_\_\_\_  
GHO \_\_\_\_\_

	EXPECTED	ACTUAL
1. Receive Level		
A. REC HYB	$+6 \pm 0.5$ dbm	<u>45.75</u> dbm
B. OUT, Pad A	$-5 \pm 0.5$ dbm	<u>-5</u> dbm
2. Transmit Level		
A. MOD	$-16 \pm 0.5$ dbm	<u>-16</u> dbm
B. OUT, Pad B	$-15 \pm 0.5$ dbm	<u>-15</u> dbm
3. Tone Osc Level		
MOD	$-26 \pm 0.5$ dbm	<u>-26</u> dbm

DATE 14 November 1963TESTER Mr. J. J. GraySUPERVISOR S. P. BawdenQUALITY ASSURANCE J. BoucherGEEIA Ralph S. Kruger



## BIG RALLY II PROJECT

## DATA SHEET

## TECHNICAL CONTROL STATION TEST

STATION (Check One) GEL \_\_\_\_\_, TID \_\_\_\_\_, GTA \_\_\_\_\_, GIM \_\_\_\_\_,  
GIM GAD \_\_\_\_\_, GPE \_\_\_\_\_, GAG XX \_\_\_\_\_

	EXPECTED	ACTUAL
1. Receive Level		
A. REC HYB	$+6 \pm 0.5$ dbm	<u>+6.3</u> dbm
B. OUT, Pad A	$-5 \pm 0.5$ dbm	<u>-5.0</u> dbm
2. Transmit Level		
A. MOD	$-16 \pm 0.5$ dbm	<u>-16.0</u> dbm
B. OUT, Pad B	$-15 \pm 0.5$ dbm	<u>-14.5</u> dbm
3. Tone Osc Level		
MOD	$-26 \pm 0.5$ dbm	<u>-26</u> dbm

DATE 9 January 1964TESTER James J. SoudanSUPERVISOR Donald C. BickelQUALITY ASSURANCE William R. MifflinGEEIA Ralph S. Krueger

AFCS \_\_\_\_\_



## BIG RALLY II PROJECT

## DATA SHEET

## TECHNICAL CONTROL STATION TEST

STATION (Check One) GEL \_\_\_\_\_, TID \_\_\_\_\_, GTA \_\_\_\_\_, GIM \_\_\_\_\_,  
~~GHO~~  
~~GIM~~ \_\_\_\_\_, GPE X \_\_\_\_\_, GAG \_\_\_\_\_

	EXPECTED	ACTUAL
1. Receive Level		
A. REC HYB	* $+6 \pm 0.5$ dbm	<u>+6</u> dbm
B. OUT, Pad A	$-5 \pm 0.5$ dbm	<u>-5</u> dbm
2. Transmit Level		
A. MOD	$-16 \pm 0.5$ dbm	<u>-16</u> dbm
B. OUT, Pad B	$-15 \pm 0.5$ dbm	<u>-15</u> dbm
3. Tone Osc Level		
MOD	$-26 \pm 0.5$ dbm	<u>-26</u> dbm

DATE 10 Jan 64TESTER R AllenSUPERVISOR George C. V. McQUALITY ASSURANCE William R. 700GEEIA Ralph S. Kruger

\* ERRATA SHEET MW-103A 12-9-63



## BIG RALLY II PROJECT

## DATA SHEET

## TECHNICAL CONTROL STATION TEST

STATION (Check One) GEL \_\_\_\_\_, TID X, GTA \_\_\_\_\_, GIM \_\_\_\_\_,  
~~GEM~~ \_\_\_\_\_, GPE \_\_\_\_\_, GAG \_\_\_\_\_

	EXPECTED	ACTUAL
1. Receive Level		
A. REC HYB	<u>J.V.T.</u> $+6 \pm 0.5$ dbm	<u>+ 5.8</u> dbm
B. OUT, Pad A	$-5 \pm 0.5$ dbm	<u>- 5</u> dbm
2. Transmit Level		
A. MOD	$-16 \pm 0.5$ dbm	<u>- 16</u> dbm
B. OUT, Pad B	$-15 \pm 0.5$ dbm	<u>- 15.5</u> dbm
3. Tone Osc Level		
MOD	$-26 \pm 0.5$ dbm	<u>-26</u> dbm

DATE 28, Nov. 1963TESTER Paul H. H. 21SUPERVISOR Samuel E. CarterQUALITY ASSURANCE Patrick HuntGEEIA Ralph S. HegerAFCS Carl W. Russell



## BIG RALLY II PROJECT

## DATA SHEET

## TECHNICAL CONTROL STATION TEST

STATION (Check One) GAB-1 \_\_\_\_\_, TIC X

EXPECTED

ACTUAL

## 1. Bridge Loss, KMT 4440

A. SPUR MOD	$-8 \pm 1$ dbm	<u>-8.0</u> dbm
B. E MOD	$-8 \pm 1$ dbm	<u>-8.3</u> dbm
C. W MOD	$-8 \pm 1$ dbm	<u>-8.0</u> dbm
D. AMP IN	$-8 \pm 1$ dbm	<u>-8.0</u> dbm

## 2. Amp Gain, KMT 4501 and Term Set Loss, KMT 4430

A. AMP IN	$-8 \pm 0.5$ dbm	<u>-8.0</u> dbm
B. OUT, Amp A, Pos 13-3	$+7 \pm 0.5$ dbm	<u>+7.0</u> dbm
C. MOD	$-1 \pm 0.5$ dbm	<u>-1.4</u> dbm
D. REC HYB	$-5 \pm 0.5$ dbm	<u>-4.6</u> dbm
E. OUT, Amp B, Pos 13-3	$-4 \pm 0.5$ dbm	<u>-4.0</u> dbm
F. OUT, Amp A, Pos 13-2	$0 \pm 0.5$ dbm	<u>0</u> dbm
G. SPUR MOD	$-8 \pm 0.5$ dbm	<u>-7.6</u> dbm
H. SPUR MOD	$-8 \pm 0.5$ dbm	<u>N/A</u> dbm
I. OUT, Amp B, Pos 13-1	$-4 \pm 0.5$ dbm	<u>N/A</u> dbm

## 3. Pad Loss, KMT 4401

A. OUT, Pad B, Pos 13-1	$-16 \pm 0.5$ dbm	<u>-16.0</u> dbm
B. OUT, Pad A, Pos 3	$-16 \pm 0.5$ dbm	<u>N/A</u> dbm

## 4. Tone Osc Level

AMP IN, KMT 4440	$-18 \pm 0.5$ dbm	<u>-18.0</u> dbm
------------------	-------------------	------------------

NOTE: Place N/A in the ACTUAL Column when the measurement does not apply at the Station under test.

DATE 28 November 1963  
 TESTER [Signature]  
 SUPERVISOR [Signature]  
 QUALITY ASSURANCE [Signature]  
 GEEIA [Signature]



## FEDERAL ELECTRIC CORPORATION

BR II/146 Rev.

## BIG RALLY II PROJECT

## DATA SHEET

## TECHNICAL CONTROL LINK TEST

STATION GKOther Station(s) on  
Same Voice Circuit  
(See Section 8.1.2)Individual Station  
Call-Initial if  
ContactedAll Station  
Call-Initial if  
ContactedGPAGABGELGAR

NOTE: Test could not be performed with levels adjusted to specs.  
supplied in the test procedures.(FEC).

DATE 17 January 1964TESTER B. GreySUPERVISOR M. R. AdregeQUALITY ASSURANCE M. D. J.GEEIA Ralph L. Huger



## BIG RALLY II PROJECT

## DATA SHEET

## TECHNICAL CONTROL LINK TEST

STATION QAROther Station(s) on  
Same Voice Circuit  
(See Section 8.1.2)GABGPAGKGELIndividual Station  
Call-Initial if  
ContactedAll Station  
Call-Initial if  
ContactedDATE 15 January 1964TESTER GB BanerSUPERVISOR F. H. [Signature]QUALITY ASSURANCE W. C. [Signature]GEEIA Ralph S. Kruger



## BIG RALLY II PROJECT

## DATA SHEET

## TECHNICAL CONTROL LINK TEST

STATION GHOOther Station(s) on  
Same Voice Circuit  
(See Section 8.1.2)Individual Station  
Call-Initial if  
ContactedAll Station  
Call-Initial if  
ContactedGAGGAG RSKOK RSKGPEGPE RSKOK RSKGABGAB RSKOK RSKGIMGIM RSKOK RSKGTAGTA RSKOK RSKDATE 9 January 1964TESTER Mr. S. LiangSUPERVISOR Ed MallinQUALITY ASSURANCE McDonnellGEEIA Ralph S. Kruger



## BIG RALLY II PROJECT

## DATA SHEET

## TECHNICAL CONTROL LINK TEST

STATION G I MOther Station(s) on  
Same Voice Circuit  
(See Section 8.1.2)Individual Station  
Call-Initial if  
ContactedAll Station  
Call-Initial if  
Contacted

Unable to conduct this test because sites GH0,GPE and GAG are not completed

DATE 14 November 1963

TESTER \_\_\_\_\_

for SUPERVISOR William J. GrayQUALITY ASSURANCE J. BoncherGEEIA Ralph L. Bringer



## BIG RALLY II PROJECT

## DATA SHEET

## TECHNICAL CONTROL LINK TEST

STATION G T AOther Station(s) on  
Same Voice Circuit  
(See Section 8.1.2)Individual Station  
Call-Initial if  
ContactedAll Station  
Call-Initial if  
Contacted

UNABLE TO CONDUCT THIS TEST BECAUSE SITES GH0,GPE,AND GAG ARE NOT COMPLETE

DATE 11 November 1963TESTER M. S. RaySUPERVISOR S. B. BawertQUALITY ASSURANCE J. B. BawertGEEIA Ralph S. Kruger

3-58



## BIG RALLY II PROJECT

## DATA SHEET

## TECHNICAL CONTROL LINK TEST

STATION GAGOther Station(s) on  
Same Voice Circuit  
(See Section 8.1.2)Individual Station  
Call-Initial if  
ContactedAll Station  
Call-Initial if  
ContactedGABRSKRSKGTARSKRSKGIMRSKRSKGHORSKRSKGPERSKRSKDATE 9 January 1964TESTER James J. [Signature]SUPERVISOR Randall C. [Signature]QUALITY ASSURANCE William R. [Signature]GEEIA Ralph S. [Signature]

3-59



## BIG RALLY II PROJECT

## DATA SHEET

## TECHNICAL CONTROL LINK TEST

STATION GPEOther Station(s) on  
Same Voice Circuit  
(See Section 8.1.2)Individual Station  
Call-Initial if  
ContactedAll Station  
Call-Initial if  
ContactedGABRSKRSKGTARSKRSKGIMRSKRSKGHORSKRSKGAGRSKRSKDATE 10 Jan 64TESTER R AllenSUPERVISOR George E. V. McQUALITY ASSURANCE William B. 769GEEIA Ralph L. Kruger



## BIG RALLY II PROJECT

## DATA SHEET

## TECHNICAL CONTROL LINK TEST

STATION TIC.Other Station(s) on  
Same Voice Circuit  
(See Section 8.1.2)Individual Station  
Call-Initial if  
ContactedAll Station  
Call-Initial if  
ContactedTIDJ.L.J.L.DATE 28 November 1963TESTER [Signature]SUPERVISOR [Signature]QUALITY ASSURANCE [Signature]GEEIA [Signature]



## DOCUMENT CONTROL DATA - R&amp;D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY (Corporate author) <b>ITT FEDERAL ELECTRIC CORPORATION PARAMUS, NEW JERSEY</b>		2a. REPORT SECURITY CLASSIFICATION <b>UNCLASSIFIED</b>	
		2b. GROUP	
3. REPORT TITLE <b>BIG RALLY II COMMUNICATION SYSTEM TEST DATA PHASE II VOL V</b>			
4. DESCRIPTIVE NOTES (Type of report and inclusive dates)			
5. AUTHOR(S) (Last name, first name, initial) <b>NONE</b>			
6. REPORT DATE <b>AUGUST 1964</b>		7a. TOTAL NO. OF PAGES <b>392</b>	7b. NO. OF REFS
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b. PROJECT NO.		<b>NONE</b>	
c.		8b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report) <b>ESD-TDR-64-451 Vol V</b>	
d.			
10. AVAILABILITY/LIMITATION NOTICES  <b>OTS RELEASE AUTHORIZED</b>			
11. SUPPLEMENTARY NOTES		12. SPONSORING MILITARY ACTIVITY <b>HQS ESD L.G. HANSCOM FIELD, BEDFORD, MASS. 01731</b>	
13. ABSTRACT  <b>Volume V of test results of System test Big Rally II project System 486L. This volume contains data sheets of link tests for each station.</b>			



14.

## KEY WORDS

## LINK A

## LINK B

## LINK C

ROLE

WT

ROLE

WT

ROLE

WT

COMMUNICATIONS  
TEST  
CHANNEL SIGNALLING  
CHANNEL RECEIVE LEVELS  
TRANSMISSION PATHS

## INSTRUCTIONS

1. **ORIGINATING ACTIVITY:** Enter the name and address of the contractor, subcontractor, grantee, Department of Defense activity or other organization (*corporate author*) issuing the report.

2a. **REPORT SECURITY CLASSIFICATION:** Enter the overall security classification of the report. Indicate whether "Restricted Data" is included. Marking is to be in accordance with appropriate security regulations.

2b. **GROUP:** Automatic downgrading is specified in DoD Directive 5200.10 and Armed Forces Industrial Manual. Enter the group number. Also, when applicable, show that optional markings have been used for Group 3 and Group 4 as authorized.

3. **REPORT TITLE:** Enter the complete report title in all capital letters. Titles in all cases should be unclassified. If a meaningful title cannot be selected without classification, show title classification in all capitals in parenthesis immediately following the title.

4. **DESCRIPTIVE NOTES:** If appropriate, enter the type of report, e.g., interim, progress, summary, annual, or final. Give the inclusive dates when a specific reporting period is covered.

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6. **REPORT DATE:** Enter the date of the report as day, month, year, or month, year. If more than one date appears on the report, use date of publication.

7a. **TOTAL NUMBER OF PAGES:** The total page count should follow normal pagination procedures, i.e., enter the number of pages containing information.

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8b, 8c, & 8d. **PROJECT NUMBER:** Enter the appropriate military department identification, such as project number, subproject number, system numbers, task number, etc.

9a. **ORIGINATOR'S REPORT NUMBER(S):** Enter the official report number by which the document will be identified and controlled by the originating activity. This number must be unique to this report.

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12. **SPONSORING MILITARY ACTIVITY:** Enter the name of the departmental project office or laboratory sponsoring (paying for) the research and development. Include address.

13. **ABSTRACT:** Enter an abstract giving a brief and factual summary of the document indicative of the report, even though it may also appear elsewhere in the body of the technical report. If additional space is required, a continuation sheet shall be attached.

It is highly desirable that the abstract of classified reports be unclassified. Each paragraph of the abstract shall end with an indication of the military security classification of the information in the paragraph, represented as (TS), (S), (C), or (U).

There is no limitation on the length of the abstract. However, the suggested length is from 150 to 225 words.

14. **KEY WORDS:** Key words are technically meaningful terms or short phrases that characterize a report and may be used as index entries for cataloging the report. Key words must be selected so that no security classification is required. Identifiers, such as equipment model designation, trade name, military project code name, geographic location, may be used as key words but will be followed by an indication of technical context. The assignment of links, rules, and weights is optional.